OKI

OKIPAGE 8c Plus / OKICOLOR 8 Color LED Page Printer MAINTENANCE MANUAL

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PREFACE

This maintenance manual provides procedures and techniques for the troubleshooting, maintenance, and repair of OKICOLOR 8 / OKIPAGE 8c Plus.

This manual is written for maintenance personnel, but it should always be accompanied with the OKICOLOR 8 / OKIPAGE 8c Plus User's Manual for procedures for handling and operating OKICOLOR 8 / OKIPAGE 8c Plus. For repairing each component of OKICOLOR 8 / OKIPAGE 8c Plus, see the Troubleshooting manual.

[Notices]
The contents of this manual are subject to change without prior notice.
Although reasonable efforts have been taken in the preparation of this manual to assure its accuracy, this manual may still contain some errors and omissions. OKI will not be liable for any damage caused or alleged to be caused, by the customer or any other person using this maintenance manual to repair, modify, or alter OKICOLOR 8 / OKIPAGE 8c Plus in any manner.

[Warning]
Many parts of OKICOLOR 8 / OKIPAGE 8c Plus are very sensitive and can be easily damaged by improper servicing. We strongly suggest that OKICOLOR 8 / OKIPAGE 8c Plus be serviced by OKI's authorized technical service engineers.

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1. SPECIFICATIONS

1.1 Basic System Configuration

The basic system configuration of OKICOLOR 8 / OKIPAGE 8c Plus is illustrated in Figure 1.1.

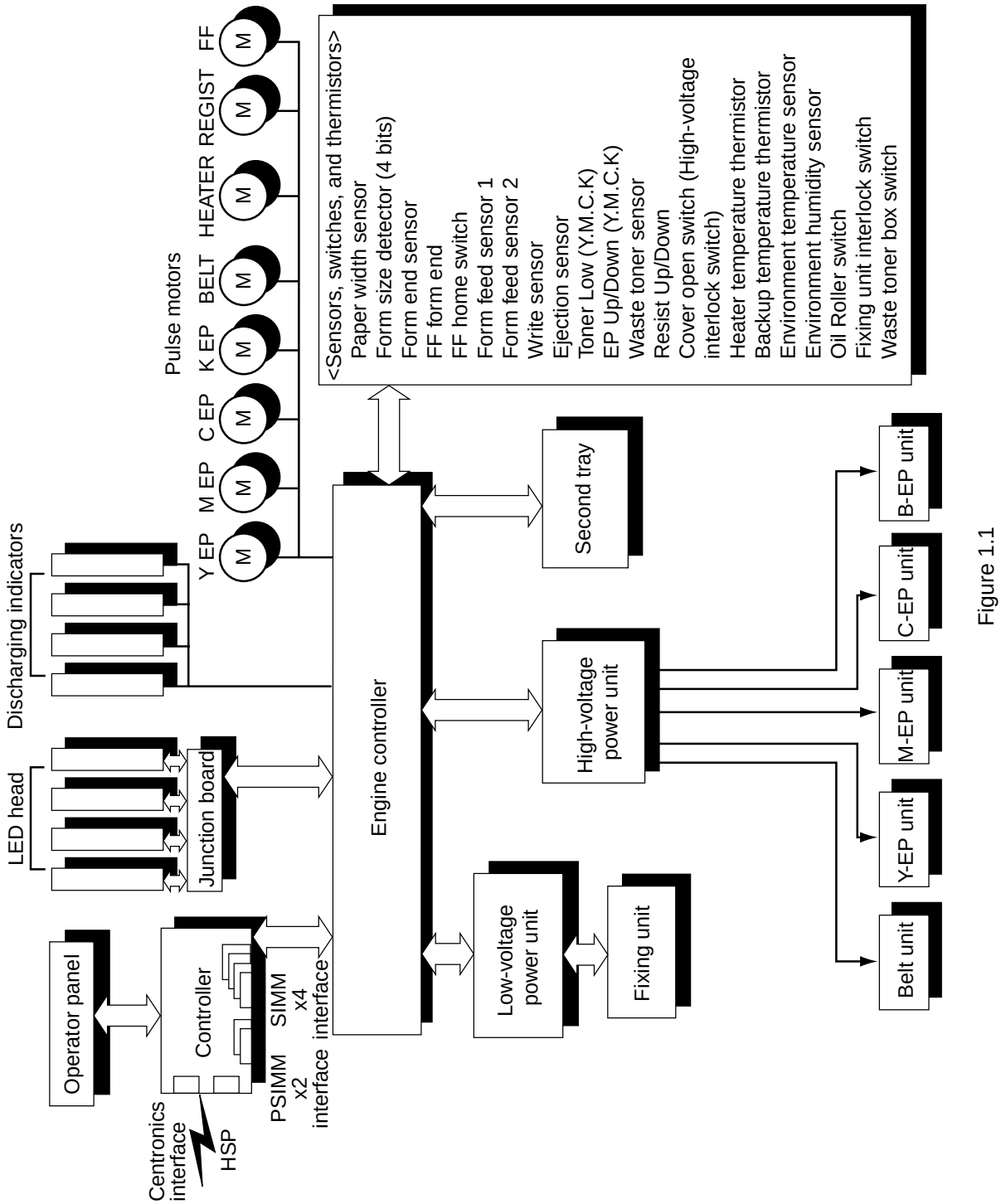


Figure 1.1

1.2 Printer Specifications

This printer unit is composed with the following hardware.

- Electro-photographic processor
- Paper feeder
- Controller (CU part / PU Part)
- Operator panel
- Power board (High voltage part / PU part)

Figure 1-2 show the printer unit configuration.

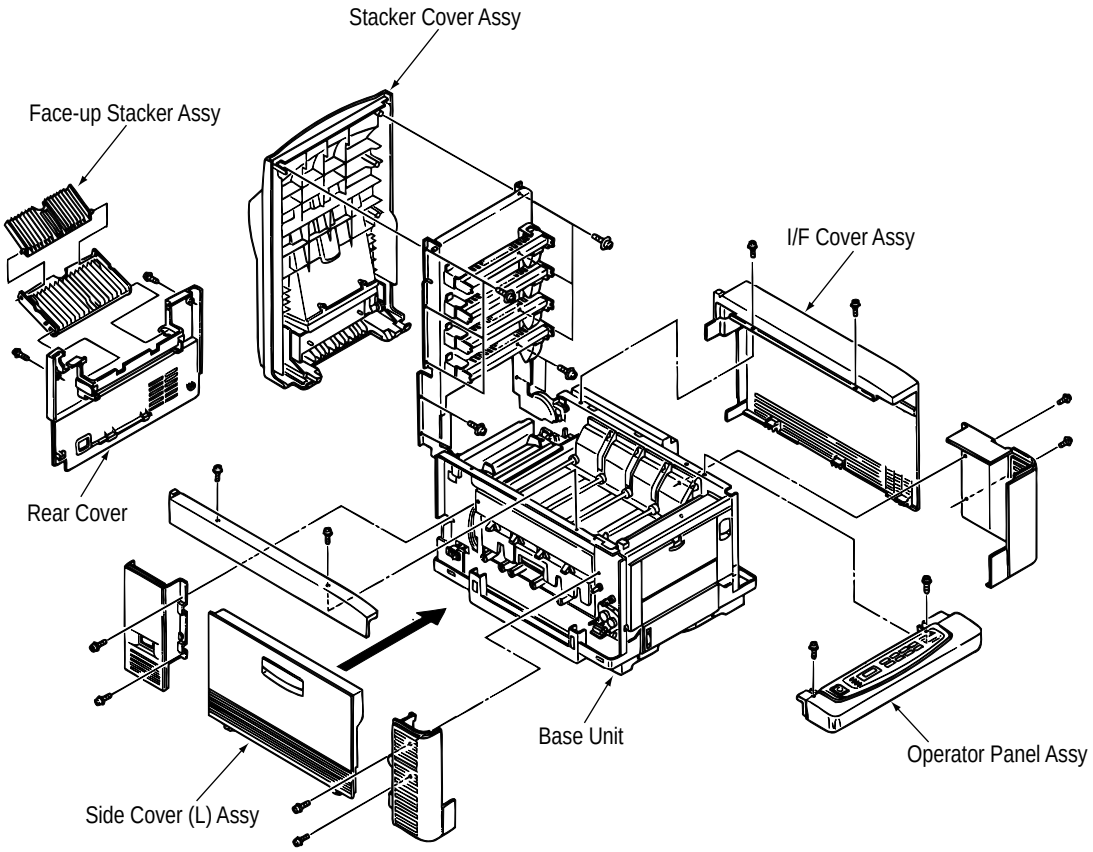
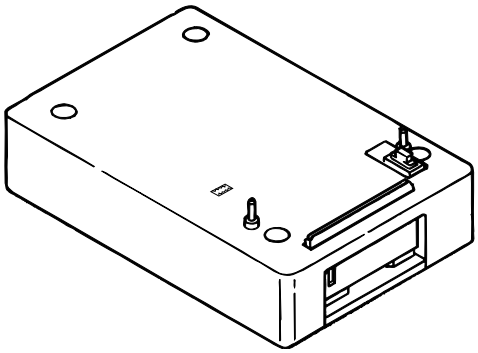


Figure 1.2

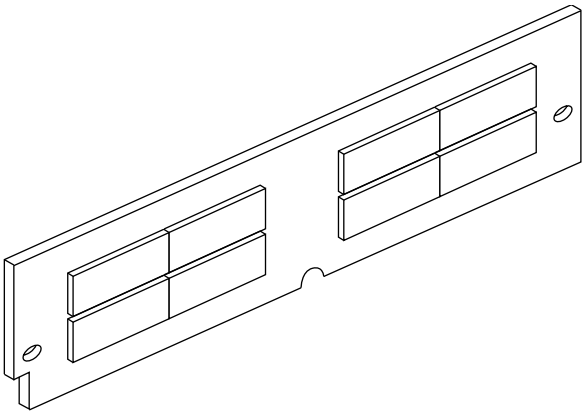
1.3 Option Specifications

Options available for OKICOLOR 8 / OKIPAGE 8c Plus are as follows.

(1) 2nd-Feeder



(2) RAM SIMM module (72 pin SIMM, 4MB/8MB/16MB/32MB)
* Make sure to use a set of 2 of the same volume size modules.



1.4 Basic Specifications

(1) Dimensions
Width: 18.8" (478mm) Length: 24.5" (622mm) Height: 15.6" (396mm)

(2) Weight
Approx. 48kg (106lbs)

(3) Form
Type: Ordinary paper (Hammermill 24lbs) and OHP (Only CG3710)
Recommended paper (for color printing)
Color laser paper (20lb to 24lbs)
Note: The printout color tones are dependent upon the whiteness of the print paper
Sizes: Letter, Legal (13"or 14"), Executive, A4, A5, B5, and A6 (1st tray and front feeder)
Reams: 1st tray 20lbs to 28lbs
2nd tray 20lbs to 28lbs
Front feeder 20lbs to 44lbs

(5) Printing speed
8 pages per minute (5 pages per minute: OHP/ 34lbs ~44lbs, 123g/m^2~166g/m^2)

(6) Resolution
600 dots per inch x 600 dots per inch

(7) Input voltage
120VAC +5.5%, -15%
230VAC ±10%

(8) Power consumption
Peak W
Typical operation W
Idle W
Power-save mode W

(9) Frequency
50Hz or 60Hz +2%, -2%

(10) Noises
Operating: 54dB (without 2nd tray), 55dB (with 2nd tray)
Standby: 45dB
Power-saving: 43dB

(11) Expendibles and service life
Toner cartridge: Approx. 1800 pages (5% duty) (each of Y, M, C, and K)
(Approx. 1000 sheets for the first)
Image drum: Up to 12,000 pages (5% duty, continuous) (each of Y, M, C, and K)
Waste Toner Box: Up to 25,000 Sheets
(under typical printout conditions: Single images of 5% density, equivalent to printout using 14 toner cartridges)
Oil Roller Unit: Up to 10,000 sheets (Life defined in the number of actually printed paper sheets)

(12) Periodically-replaced parts
Heat Unit Assy: 60,000 pages
Belt Cassette Assy: 50,000 pages

(13) Temperatures and relative humidities

Temperature

Temperature conditions

	Temperature (in _F)	Temperature (in _C)	Remarks
Operating	50 to 89.6	10 to 32	17_C to 27_C (for assurance of full-color printout quality)
Non-operating	32 to 109.4	0 to 43	Power off
Storage (1 year max.)	14 to 109.4	-10 to 43	with drum and toner
Delivery (1 month max.)	-20 to 122	-29 to 50	without drum and toner and Belt Cassette Assy
Delivery (1 month max.)	-20 to 122	-29 to 50	with drum and toner

Humidity

Humidity condition

	Relative humidity (%)	Wet-bulb temperature	Remarks
Operating	20 to 80	25	50% to 70% (for assurance of full-color printout quality)
Non-operating	10 to 90	26.8	Power off
Storage	10 to 90	35	
Delivery	10 to 90	40	

for the packed unit only

(14) Printer life
3,000,000 (A4) pages or 5 years

2. OPERATION

OKICOLOR 8 / OKIPAGE 8c Plus is a tandem color electrophotographic page printer, using 4992-LED technologies , OPC, dry single-component non-magnetic developing, roller transfer, heat-compression fixing and so on. The printing method used is a Black Writing method which applies light beams to printout areas.

Figure 2.1 shows the functional block diagram of OKICOLOR 8 / OKIPAGE 8c Plus.

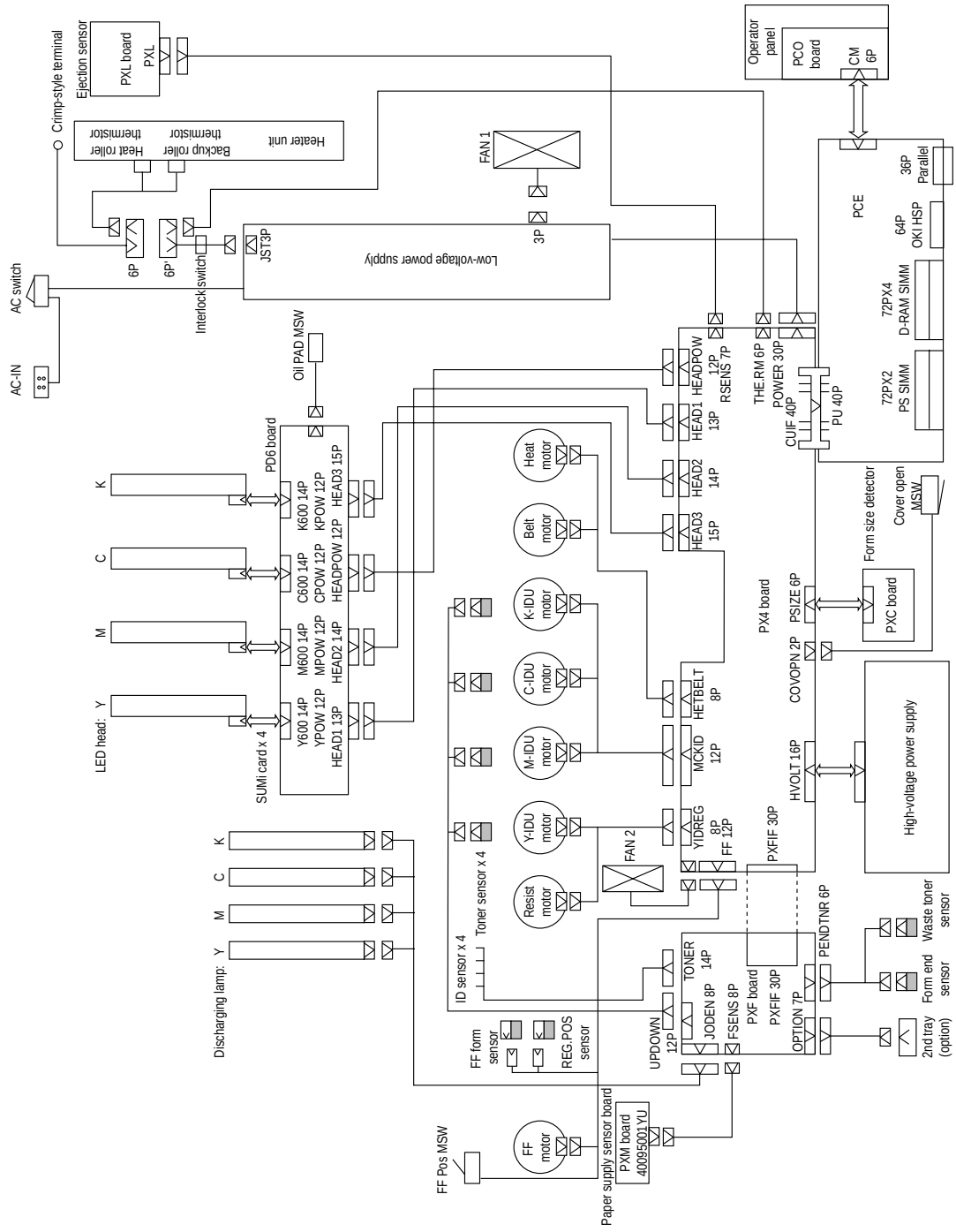


Figure 2.1

2.1 Main Control Board (PCE PCB)

The control board consists of a CPU (μPD30500S2-200) block, a memory control LSI block, an interface control LSI block, a DRAM block, an EEPROM block, a mask ROM block, and an interface block. Figure 2.2 shows the functional block diagram of the main control board (PCE PCB).

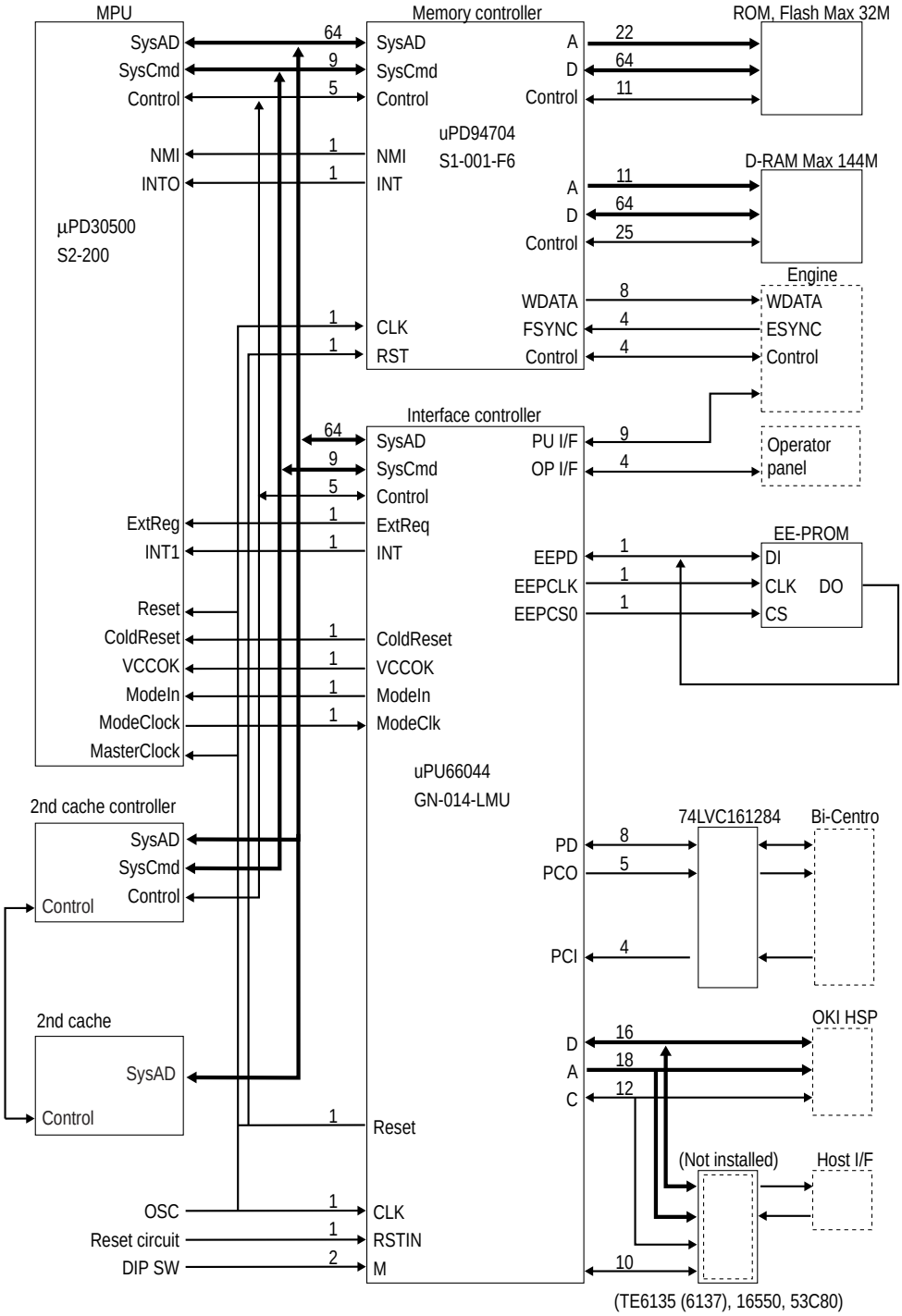


Figure 2.2

(1) CPU
The CPU is a 64-bit RISC architecture processor (provided by NEC). It inputs a frequency of 50MHz and runs at 200MHz. It transfers data to and from memory at 50MHz.

(2) OTP ROM
The otp ROM block consists of four 16Mbit (1M x 16bits) chips and its total size is 8M bytes. The chips are mounted on the PCE-PCB by means of IC sockets and store programs and character fonts.

(3) DRAM
The DRAM block consists of eight 16Mbit (1M x 16bits) chips and its total size is 16M bytes. The chips are mounted on the PCE-PCB and can be expanded up to 144M bytes by adding the 32M byte SIMMs to the SIMM slots on the PCE-PCB.

(4) EEPROM
The EEPROM block consists of 16K-bit chips mounted on a board by means of IC sockets and stores the following:
- Menu data
- Counter values
- Adjustment values

(5) Flash ROM
The Flash ROM block consists of four 4M bit (256K x 16bits) chips and its total size is 2M bytes. The chips are mounted on the PCE-PCB and are used for storing fonts, macro and demo pages.

(6) Memory control LSI
This block mainly consists of memory control, CPU control, compression and decompression, and video interface functions.

(7) Interface control LSI
This block mainly consists of PU interface control, operator panel interface control, EEPROM control, parallel interface control, and HSP control functions.

(8) Host interface
This printer has the following interfaces to the host.

- Centronics bidirectional parallel interface
- HSP interface (Option)

The single effective interface or the automatic interface select mode can be selected using the menu. If the busy state of the printer continues for a long time period, the buffer near-full control releases the busy status at constant intervals even if the host side is busy so as not to cause interface time-out at the host side.

(a) Centronics bidirectional parallel interface

This is an interface conforming to IEEE-1284 and provides either unidirectional and bidirectional communications according to each of the following communication modes.

- Compatibility mode
  Unidirectional communications from the host to the printer.

- Nibble mode
  This mode transfers 4-bit wide data from the printer to the host. In this mode, each bit of 1-byte data is transmits in the form of two nibbles using ERROR, BUSY, FAULT, and SELECT signal leads. This mode can provide bidirectional operation in combination with the compatibility mode.

- ECP mode
  This mode provides the asynchronous bidirectional interface and transmits and receives 1-byte data using eight data signal leads under semi-duplex control by the host.

When the power is turned on, the compatibility mode is automatically selected. The change to another mode from the compatibility mode is made through negotiation.
(When the BI DIRECTION is set to ENABLE in the menu, this change can be performed.)
(For the electrical/physical characteristics of this interface, see APPENDIX B)

(b) HSP interface (Option)

This interface (slot) is an OKI unique universal interface that provides the platform to connect various of boards (including those supplied by third venders) such as the LAN connection expansion board and SCSI expansion board.
Any expansion boards compatible with this interface can be mounted on the Control board in the piggyback board from without modifying the program at the printer side. The conceptual diagram of the HSP interface is shown in Fig. 2-3.

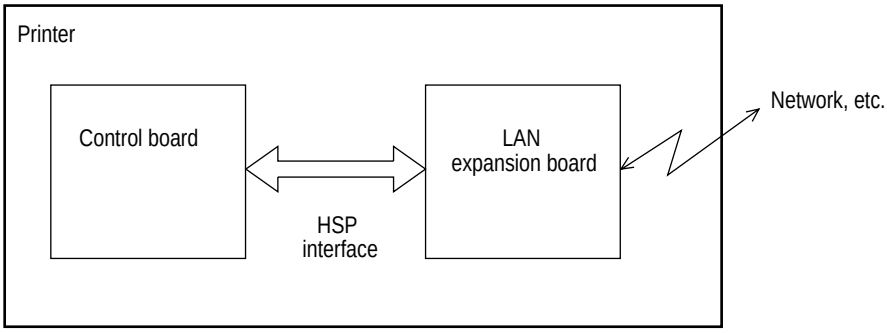


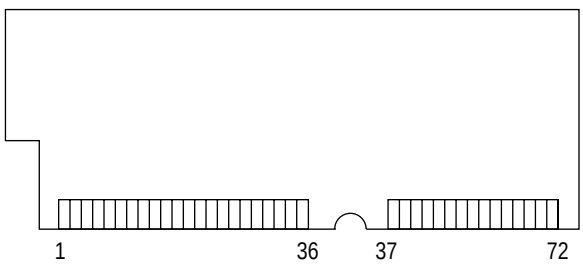
Figure 2.3

(For the electrical/physical characteristics of the HSP interface, see the HSP interface technical manual.)

(9) 2nd Cache and 2nd Cache Controller
This printer has 2nd Cache unit which type is Write Through Cache and size is 512 KByte.
There are any difference between the instruction and data.
All of the CPU read/ write accesses are cached to same 2nd Cache memory.

(10) RAM module

- Pin layout



- Basic specificaton
  - Type: 72 pins SIMM (32 bits buss width)
  - Access time: 60ns, 70ns, 80ns
  - Capacity: 4, 8, 16 or 32MB
  - Parity: None

2.2 Engine Control Board (PX4 PCB)

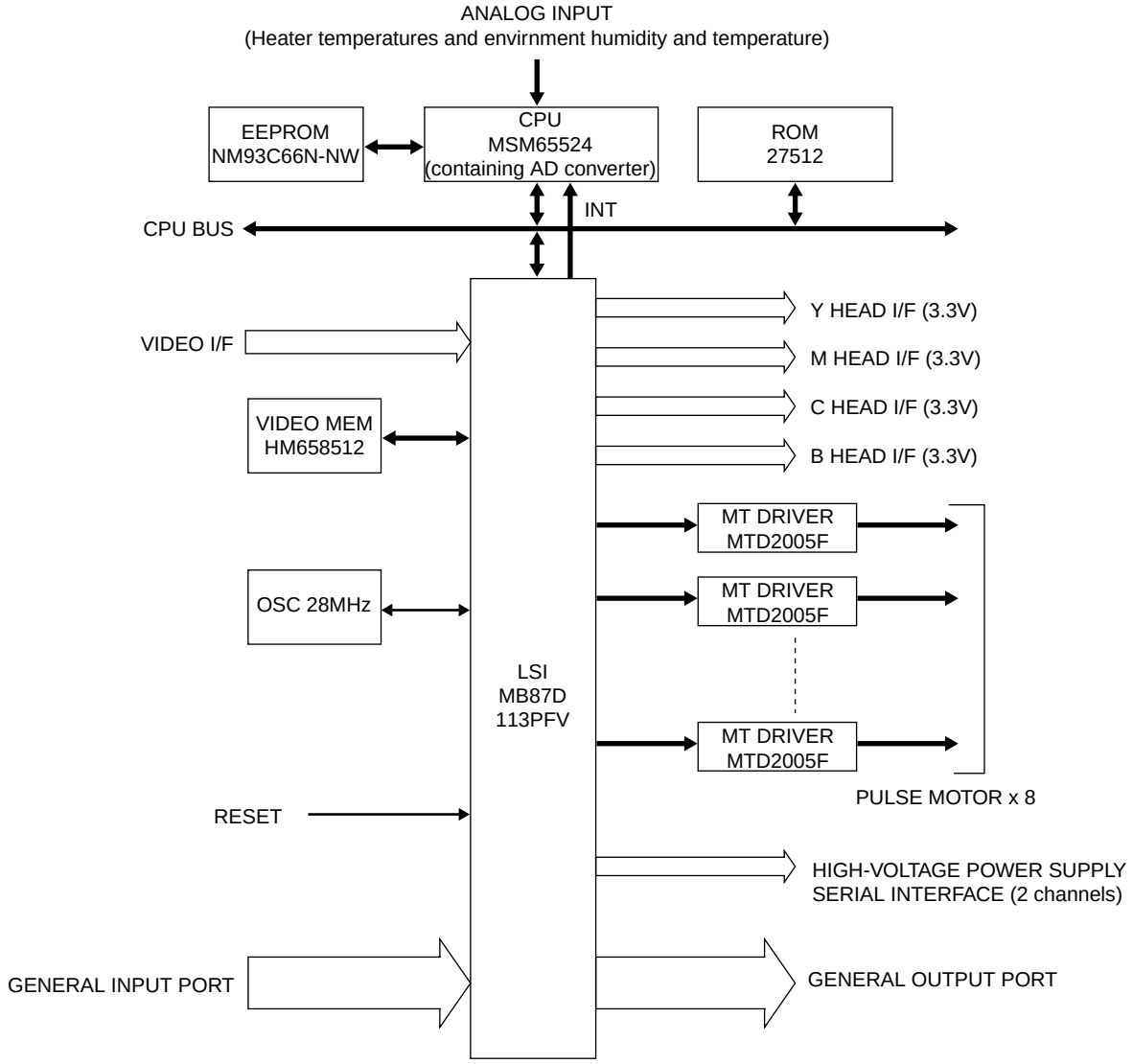


Figure 2.4

The engine control block (PU) is controlled by the engine control board (PX4 PCB) which consists of a CPU (MSM65524), general purpose LSI chips, EPROM, EEPROM, pulse motor drivers, and video memory. (See Figure 2.4.)

(1) CPU
This is an 8-bit CPU (OKI MSM65524) containing the AD converter and controls the whole system.

(2) General-purpose LSI
This LSI (MB87D113PFV) is provided in the printer engine control block and has controller-engine video interface, LED interface, motor control, sensor input, video memory control, main scanning color correction, skew correction, high-voltage power control, and OST-EX2 functions.

(3) EPROM
This EPROM (27C512-150) has a storage capacity of 512K bits and stores programs for the PU block.

(4) EEPROM
This EEPROM (NM93C66N-NW) having a storage capacity of 4K bits is mounted on the board by means of IC socket and stores adjustment values etc.

(5) Pulse motor drivers
These drivers (MTD2005F) drive eight pulse motors for moving up and down the EP and transferring medium.

(6) Video memory
This SRAM receives print data through video interface and stores it.

2.3 Power/Units

The power supply unit comprises of the low voltage power supply unit which consists of an AC filter circuit, low voltage power supply circuit and heater driver circuit, and the high voltage power supply unit.

(1) Low voltage power supply unit

This circuit generates the following voltages.

Output voltage	Use
+3.3 V	CU Unit CPU, LED HEAD
+5 V	Logic circuit supply voltage
+32 V	Motor and fan drive voltage and source voltage for high-voltage supply, discharge lamp
+12 V	HSP, OP Amp, high voltage power supply
–12 V	HSP

(2) High voltage power supply unit

This circuit generates the following voltages necessary for electro-photographic processing from +32 V in accordance with the control sequence from the control board. When cover open state is detected, +32 V supply is automatically interrupted to stop the supply of all the high-voltage outputs.

Output	Voltage	Use	Remarks
CH	-1.35 KV ±50V	Voltage applied to charging roller	
DB	Normal paper Y. M. C : -250V/+300V, -232V/+300V(First paper. Y only) K : -275V/+300V Transparency Y. M. C. : -200V/+300V, K. : -250V/+300V	Voltage applied to developing roller	
SB	Y. M. C.K : -650V/0V	Voltage applied to toner supply roller	
TR	0 to 4 KV	Voltage applied to transfer roller	Variable
FIX	0 to 2.5 KV	Voltage applied to transfer roller	Variable

2.4 Mechanical Processes

Figure 2.5 shows the mechanical processes of OKICOLOR 8/ OKIPAGE 8c Plus.

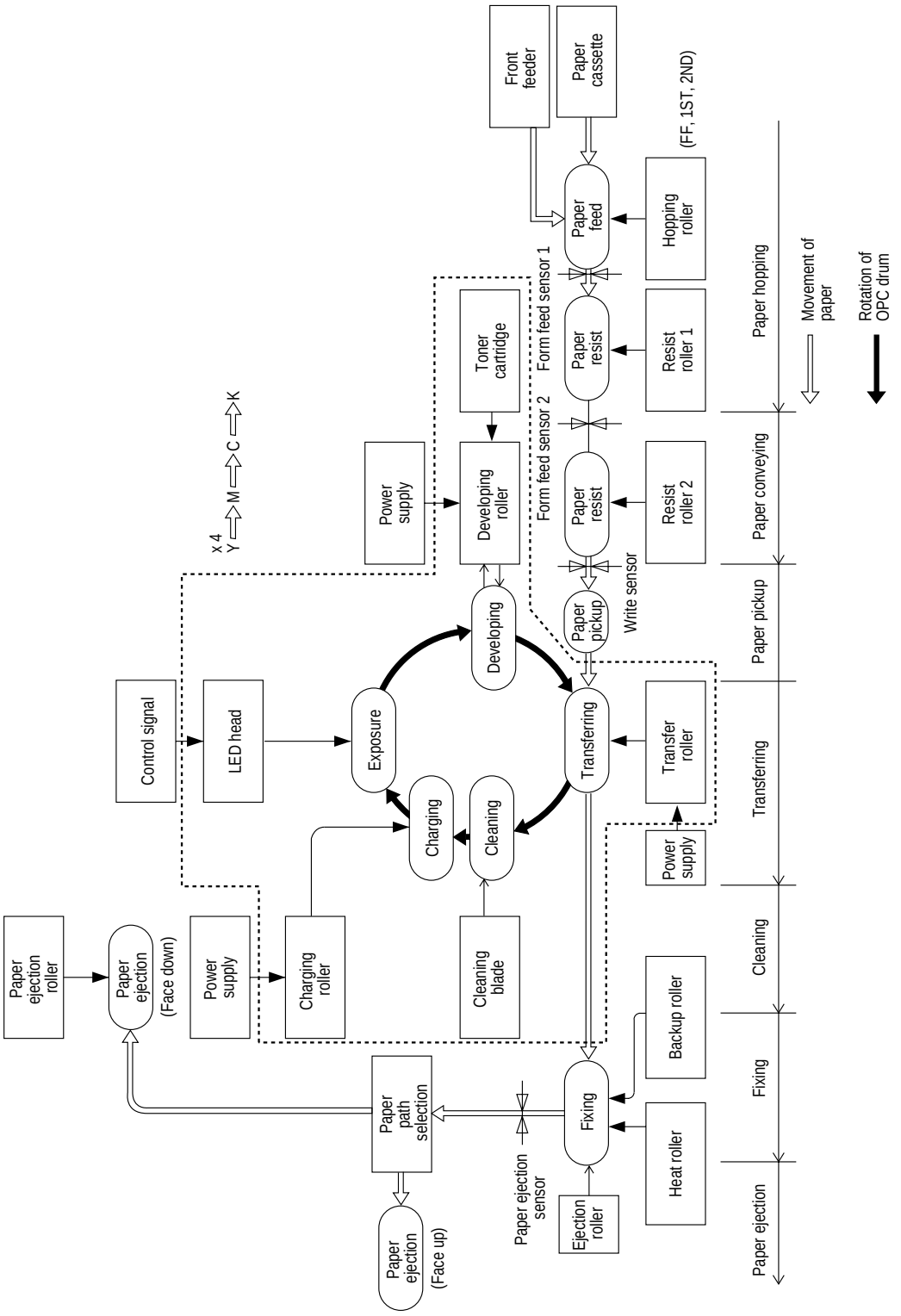


Figure 2.5

2.4.1 Electrophotographic processing mechanism

(1) Electrophotographic processes
Each process of the electrophotographic processing mechanism is outlined below.

① Paper pickup
This process causes the roller to give a DC voltage to the paper to have a negative charge. With this negative charge, the paper is electrostatically attracted to the roller.

② Charging
This process gives a DC voltage to the CH roller so that the OPC drum may have a uniform negative charge on its surface.

③ Exposure
This process causes the LED head to apply light beams according to image signals to the negatively-charged surface of the OPC drum. The negative charge on the illuminated surface of the OPC drum is reduced according to magnitudes of the light beams. Thus, a latent image is formed on the surface of the OPC drum according to the resulting surface potentials.

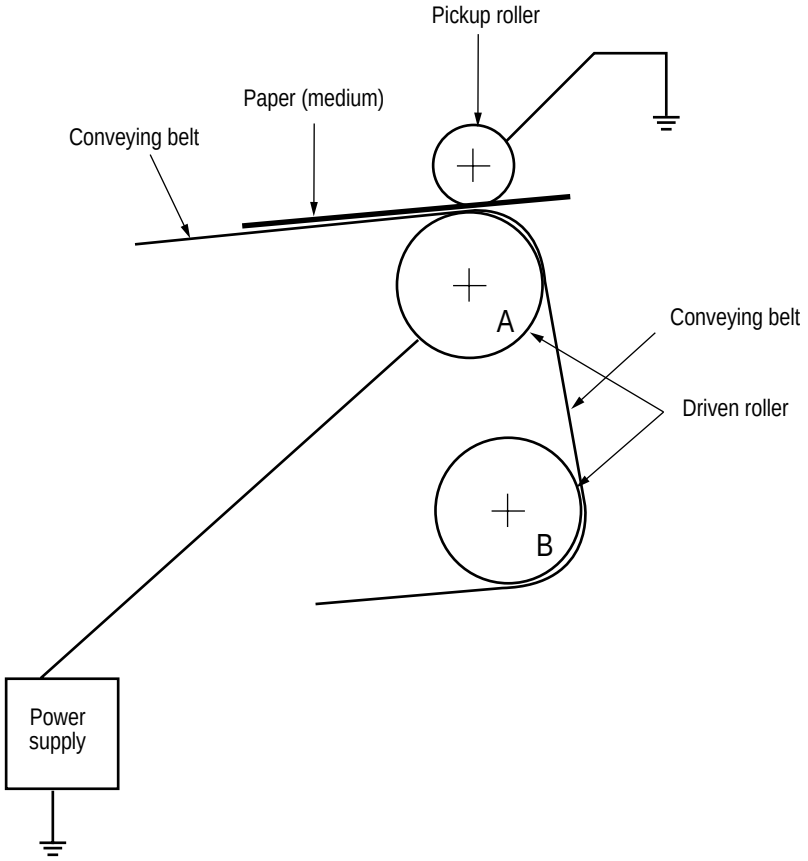
④ Developing and recovery of excessive toner
This process applies negatively-charged toner to the surface of the OPC drum. The toner is electrostatically attracted to the latent image to form a visible image on the surface of the OPC drum. Simultaneously, this process electrostatically transfers excessive toner from the OPC drum to the developing roller.

⑤ Transferring
This process fits paper to the surface of the OPC drum, applies positive charge (opposite to the charge of the toner) to the back side of the paper from the transfer roller. The toner image is transferred to the paper.

⑥ Cleaning
Cleaning blade scrapes off the remaining toner from the OPC drum which has been used to transfer.

⑦ Fixing
This process fixes the toner image on the paper by pressing and fusing the image.

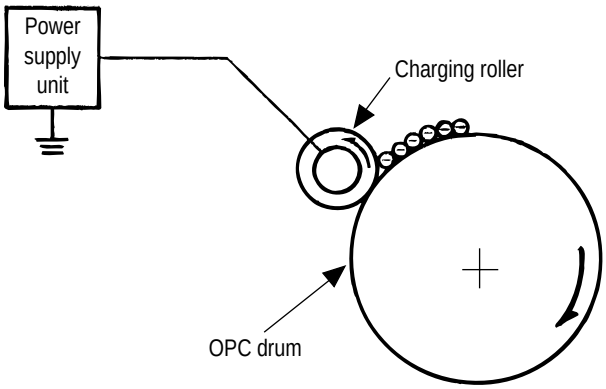
(2) Paper pickup



A DC voltage (0V to 2KV) is applied to the driven roller A to positive charge the lower surface of the paper. The negatively-charged paper is electrostatically attracted to the pickup roller. With this, the paper is in close-contact with the conveying Belt and conveyed steadily.

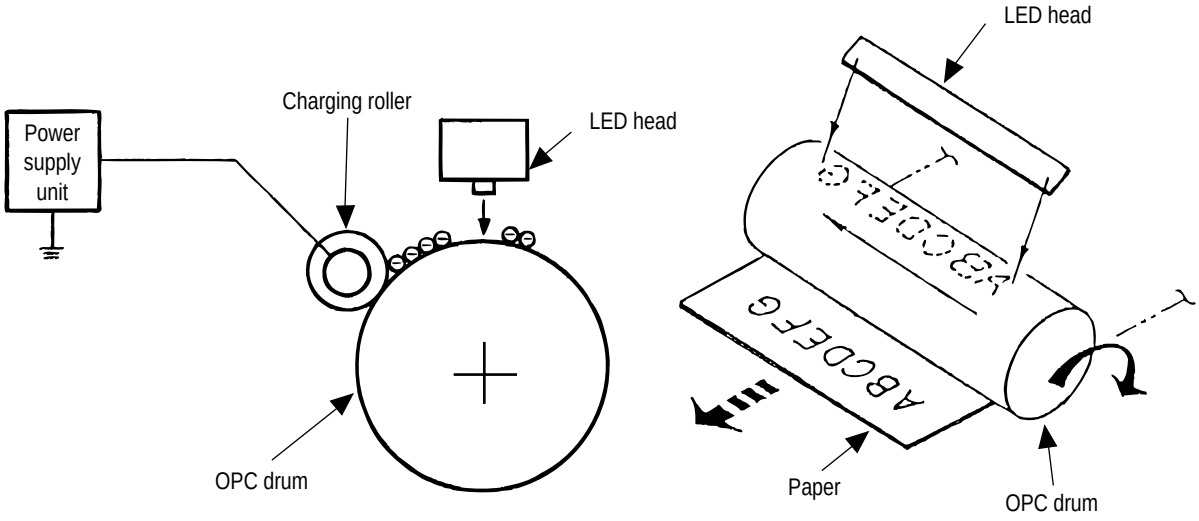
(3) Charging

This process applies a DC voltage to the charging roller in contact with the surface of the OPC drum.



(4) Exposure

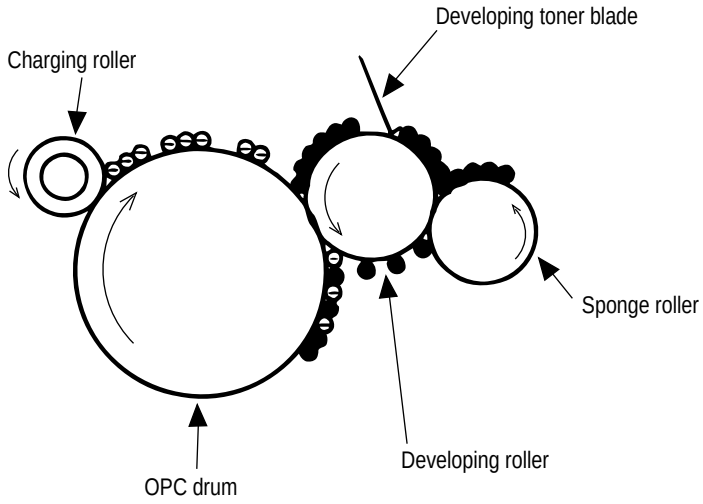
The light beams from the LED head are applied to the surface of the OPC drum which is charged negatively. The negative charge on the illuminated surface of the OPC drum is reduced according to magnitudes of the light beams and a latent image is formed on the surface of the OPC drum according to the resulting surface potentials.



(5) Developing

This process applies toner to the latent image on the surface of the drum to convey it into a toner image. Developing is carried out on the surface of the OPC drum at which the OPC drum is in contact with the developing roller.

① The sponge roller transfers toner to the developing roller. The toner is charged negatively.



② The toner blade scrapes away excessive toner on the developing roller to form a thin film of toner on the surface of the developing roller.

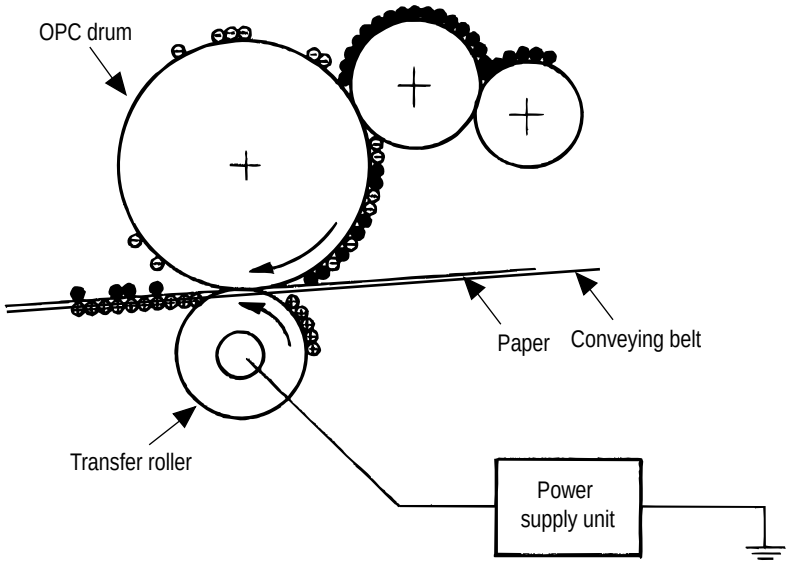
③ The toner is attracted to the latent image on the surface of the OPC drum at which the OPC drum is in contact with the developing roller. The latent image on the surface of the OPC drum is made visible with the toner.

(6) Transferring

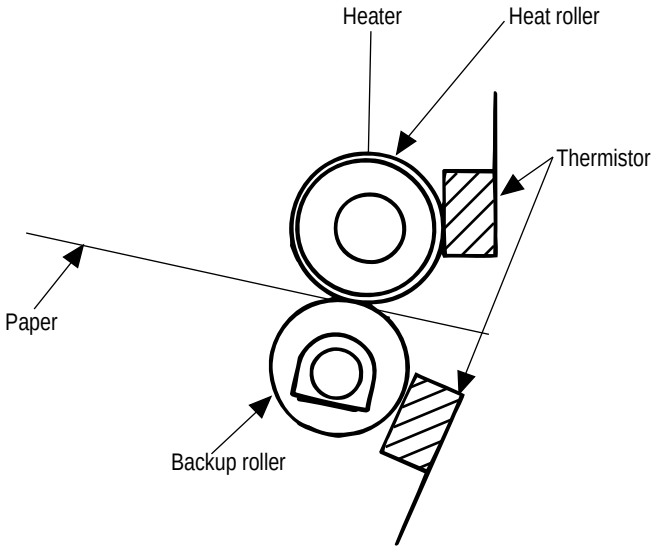
The transfer roller made of conductive sponge presses the paper against the surface of the OPC drum so that the paper may be close contact with the surface of the OPC drum.

This process fits the paper to the surface of the OPC drum by the transfer roller and applies positive charge (opposite to the charge of the toner) from under the paper.

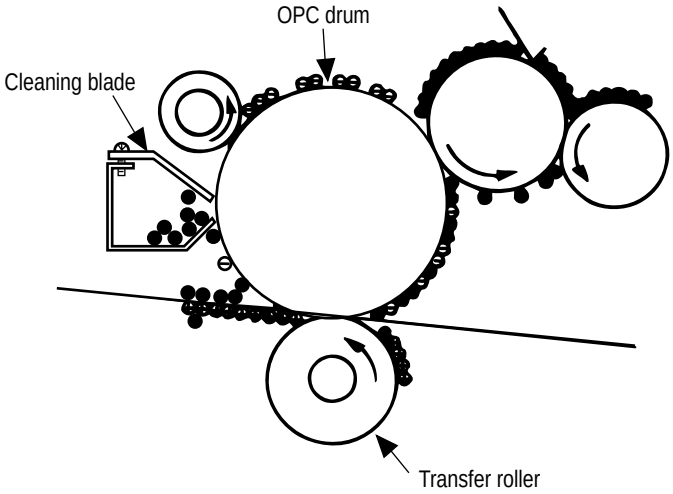
When a positive high voltage is applied to the transfer roller from the power supply, the positive charge induced on the transfer roller jumps to the upper surface of the paper at which the transfer roller touches the paper and attracts the negatively-charged toner from the surface of the OPC drum onto the surface of the paper.



(7) Fixing The toner image just transferred to the paper is fused and fixed to the paper while the paper is passing through the gap between the heat roller and the backup roller. The teflon-coated surface of the heat roller is heated up by the 800-watt heater (or a halogen lamp) provided in the heat roller. The temperature of the heat roller surface is controlled by a thermistor in contact with the surface of the heat roller. A thermostat is provided for safety. When the heat roller temperature goes higher than the preset temperature, the thermostat opens and shut off power to the heater in the heat roller. The backup roller is evenly pushed against the heat roller by two end springs.



(8) Cleaning
The toner which remains on the OPC Drum without being fused is scraped by a cleaning blade and discarded in the waste toner tank.



2.4.2 Paper running process

Figure 2.6 shows how paper moves in the OKICOLOR 8/ OKIPAGE 8c Plus.

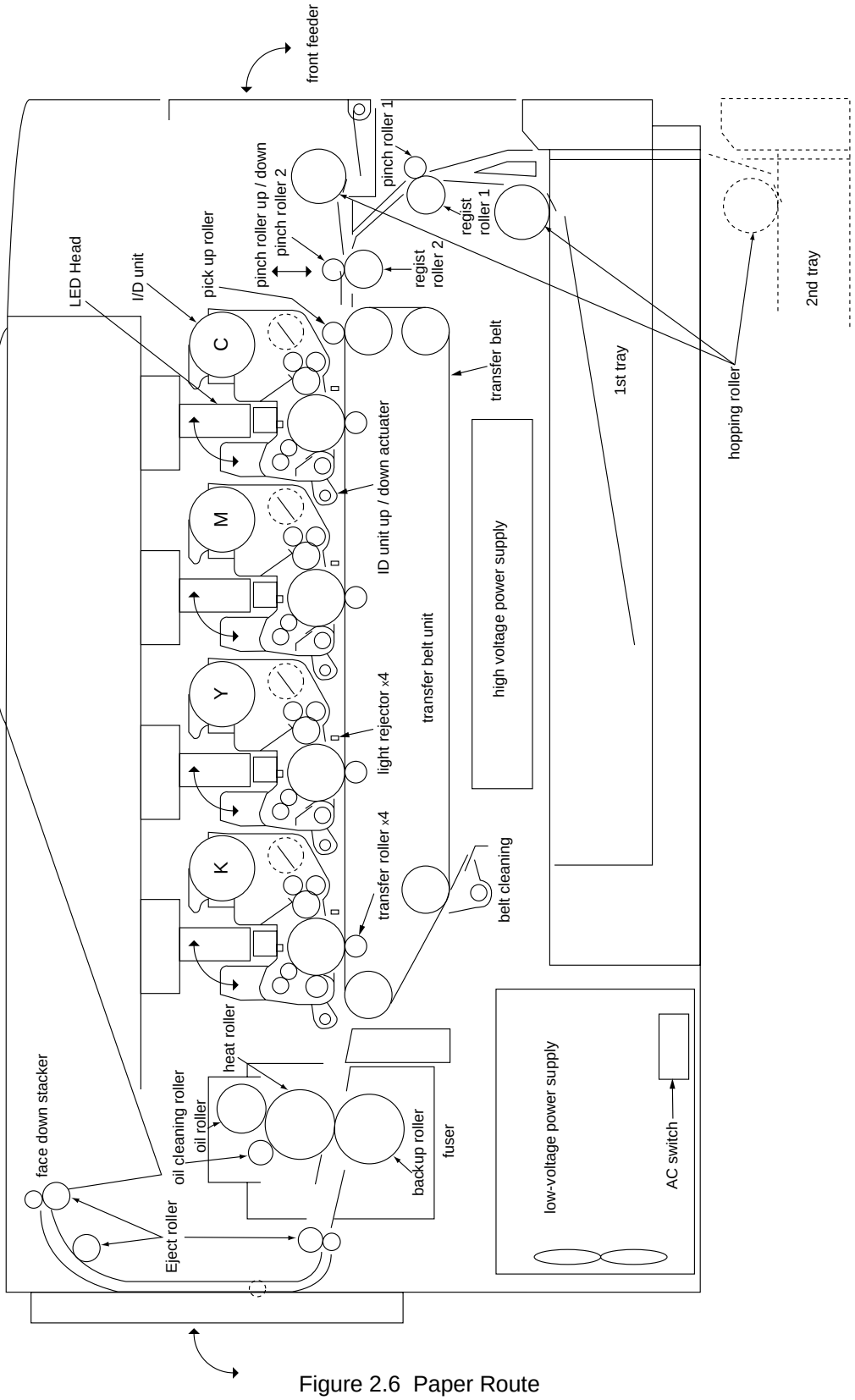
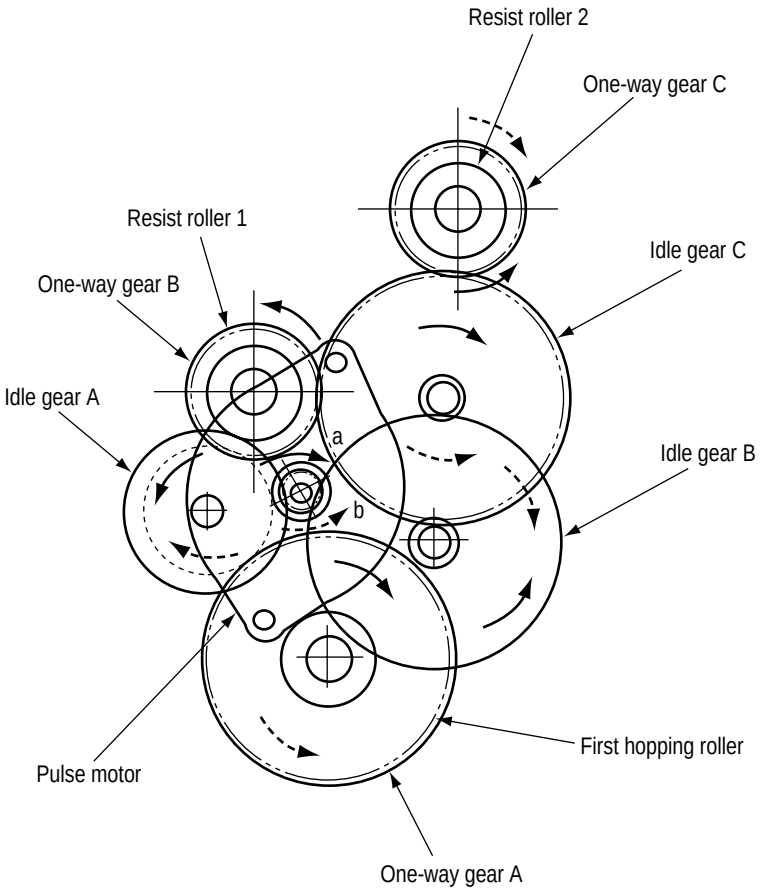


Figure 2.6 Paper Route

(1) Paper hopping and transfer and up/down movement of pinch roller 2
Paper is hopped and delivered by the mechanism shown below. This mechanism is driven by a single pulse motor.

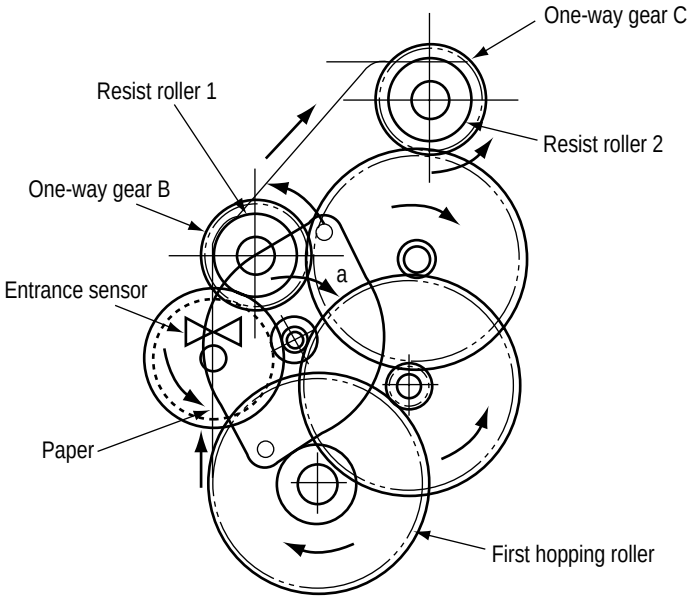


The pulse motor turns in the arrow direction (a) and drives the hopping roller in the direction of "b." The hopping roller drives the resist roller.
Each of the one-way clutch gears A, B, and C has a one-way clutch to prevent the rollers from rotating reversely.

(a) Hopping

① The pulse motor turns in the arrow direction of “a” (counterclockwise) and drives the hopping roller to move the paper until the Entrance sensor turns on. Although the one-way gears B and C are also driven, the resist roller 2 does not turn because the reverse rotations of the one-way clutch gears are not transmitted to the resist roller.

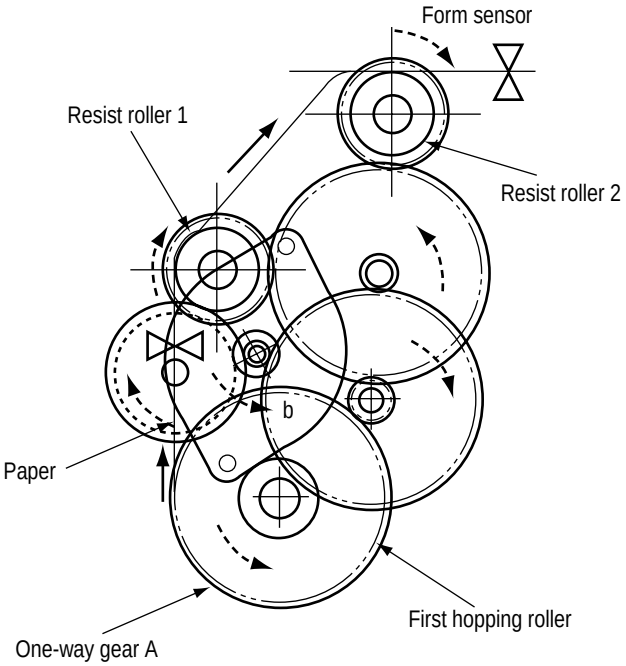
② After the Entrance sensor turns on, the hopping roller keeps on feeding the paper until it hit the resist roller 1. (This operation corrects any paper skew.)



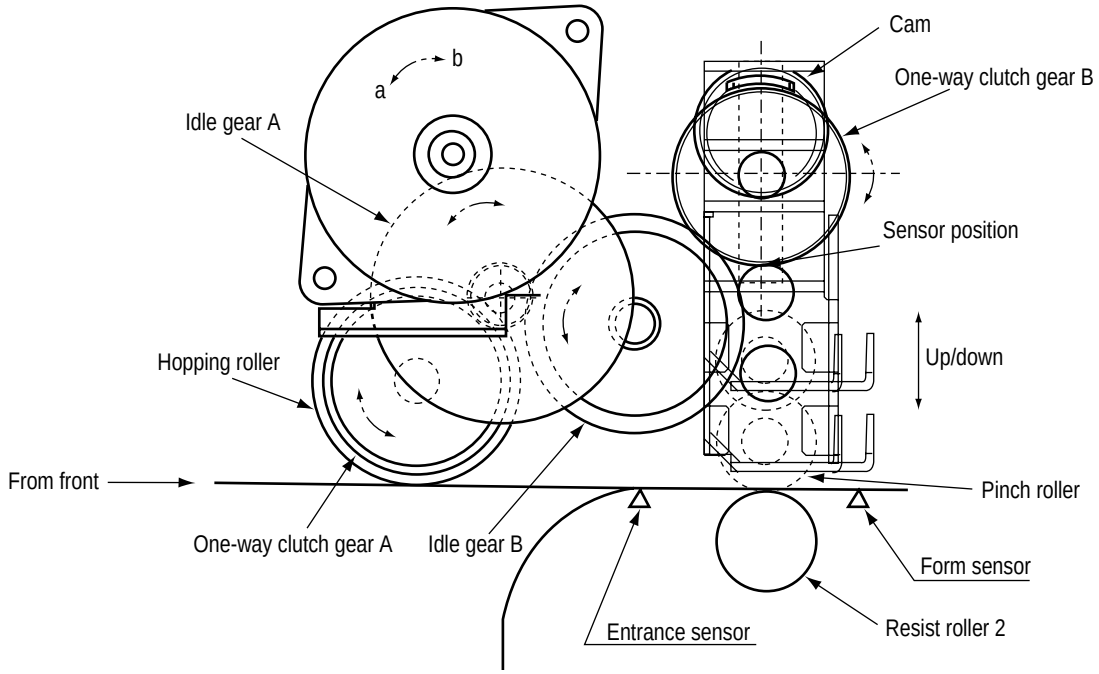
(b) Conveying

① After paper hopping is completed, the pulse motor turns right (in the direction of “b”) to drive the resist rollers 1 and 2. The resist rollers feed the paper until the Form sensor turns on.
Although the one-way gear A is also driven, the hopping roller does not turn because of the one-way clutch.

② The paper is further fed in synchronism with the print data.



(2) The hopping operation of the front feeder and the up/down operation of the pinch roller 2 are performed by a single pulse motor, as shown below.

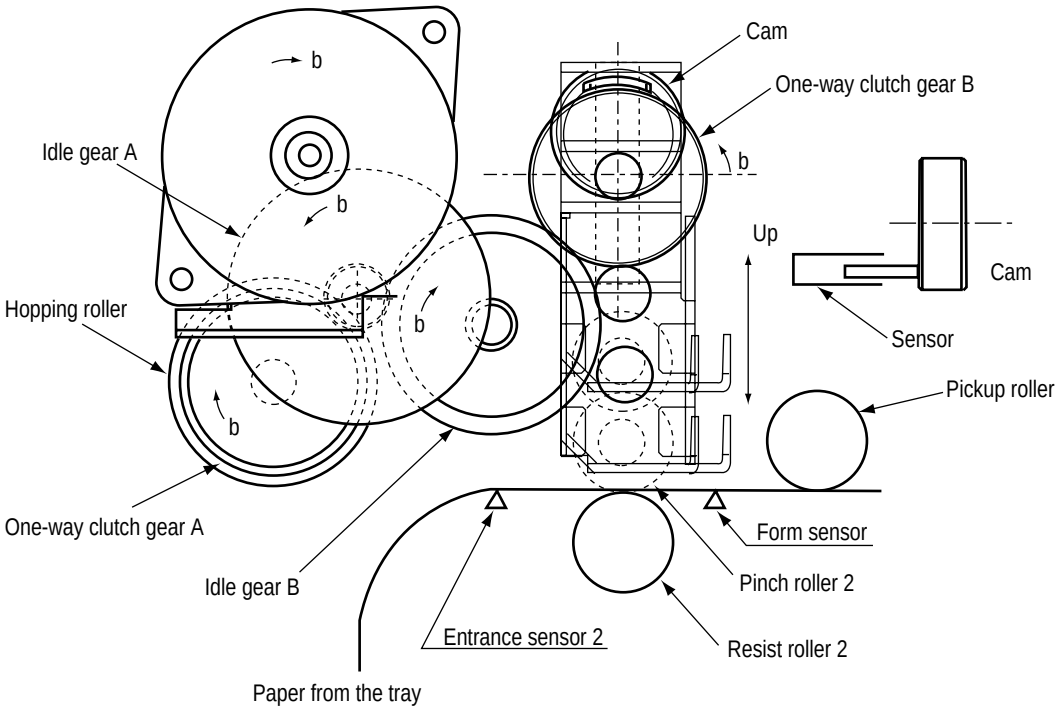


When the pulse motor of the front feeder turns right (in the direction of “A”), the front hopping roller turns left (in the direction of “b”) to drive the cam. This cam moves up and down the pinch roller 2. The one-way clutch gears are made to turn only in a preset direction by means of the one-way clutches.

(a) First and second hopping rollers

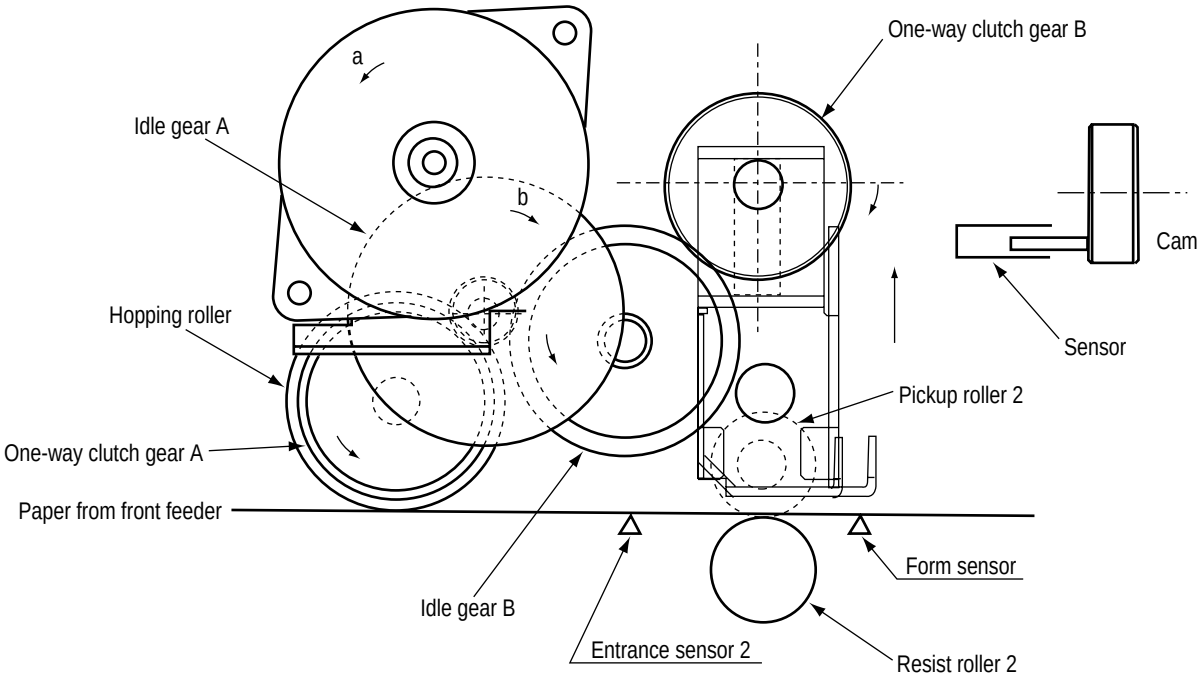
① When the front edge of the paper passes by the pickup roller, the pulse motor of the front feeder turns left (in the direction of “b” to drive the cam. The cam moves up the pinch roller 2. Although the one-way clutch gear A is also rotating, the hopping roller of the front feeder does not rotate by means of the one-way clutch.

② When the rear edge of the paper passes by the Entrance sensor 2, the pulse motor of the front feeder turns left (in the direction of “b”) to drive the cam. The cam moves down the pinch roller 2 until it is sensed by the sensor. Although the one-way clutch gear A is also rotating, the hopping roller of the front feeder does not rotate by means of the one-way clutch.



(b) Front feeder hopping

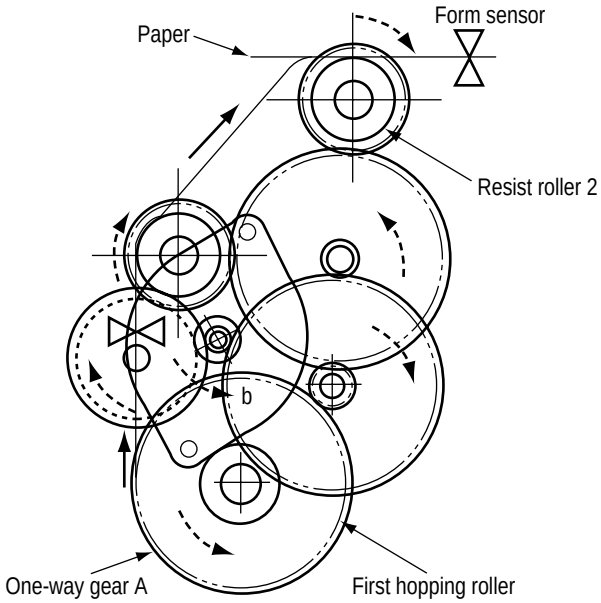
① The pulse motor of the front feeder turns right (in the direction of “a” to drive the hopping roller. The paper is fed until the Entrance sensor 2 turns on. Although the one-way clutch gear B is also rotating, the pinch roller 2 does not drive the up/down cam by means of the one-way clutch.
After turning on the Entrance sensor, the paper is further fed until it hits the resist roller 2. (This operation corrects any paper skew.)



(c) Conveying

① After paper hopping is completed, the pulse motor turns right (in the direction of “b”) to drive the resist rollers 1 and 2. The resist rollers feed the paper until the Form sensor turns on.

② Although the one-way gear A is also driven, the first hopping roller does not turn because of the one-way clutch.



(2) Up/down movement of the I/D unit and rotation of the EP drum

The up/down movement of the I/D unit and the rotation of the EP drum are performed by a mechanism shown below. (See Figure 2.6-a) This mechanism is driven by a single pulse motor.

When the pulse motor turns left (CCW), the up/down gear turns left (in the direction of "a") and the up/down lever (see Figure 2.6-b) moves up (in the direction of "α"). The up/down lever pushes up the up/down actuator of the I/O unit. The I/D unit moves up as shown in Figure 2.6-b. The EP drum rotates freely.

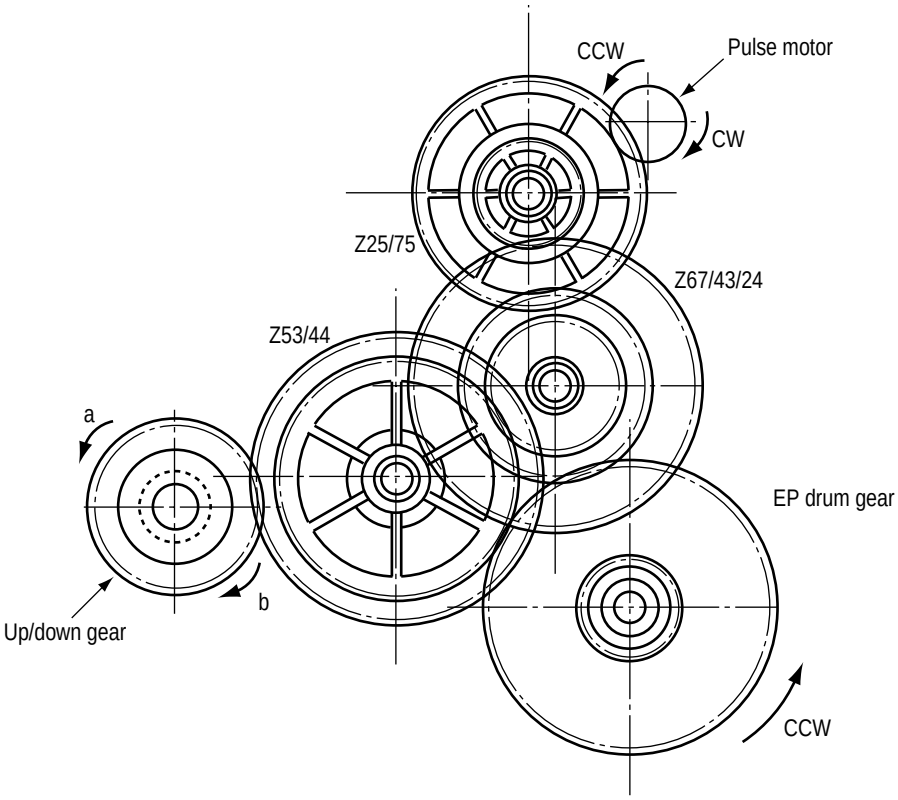


Figure 2.6-a

When the pulse motor (see Figure 2.6-a) turns right (CW), the EP drum gear turns left (CCW) and the up/down gear (one-way gear) is released. The weight of the I/D unit is applied to the up/down lever via the up/down actuator of the I/O unit. The free up/down gear turns right (in the direction "b" in Figure 2.6-a) and the I/D unit goes down until the up/down actuator of the I/D unit is stopped by the up/down lever. (See Figure 2.6-c.) During this, the image is transferred onto the running paper.

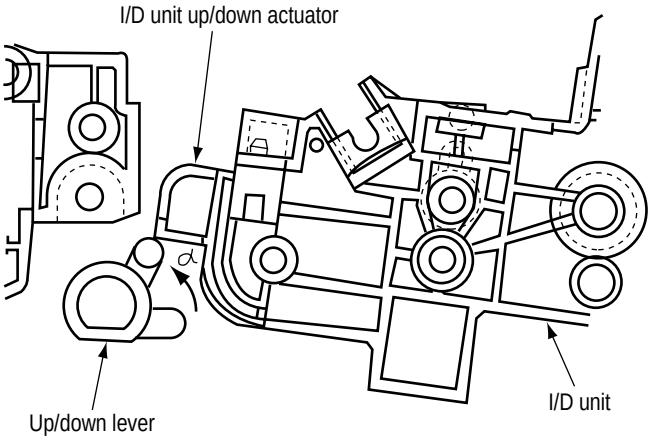


Figure 2.6-b

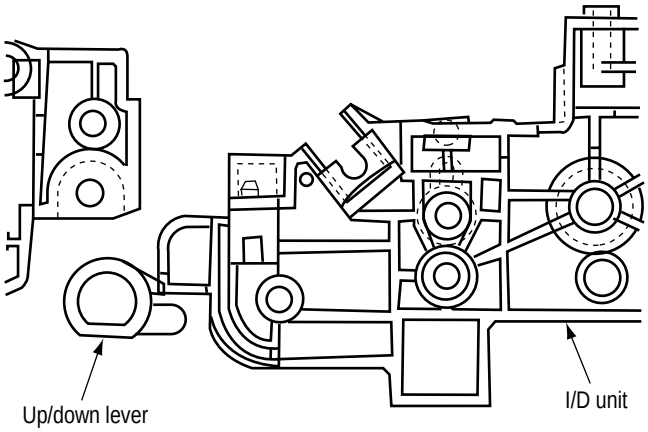
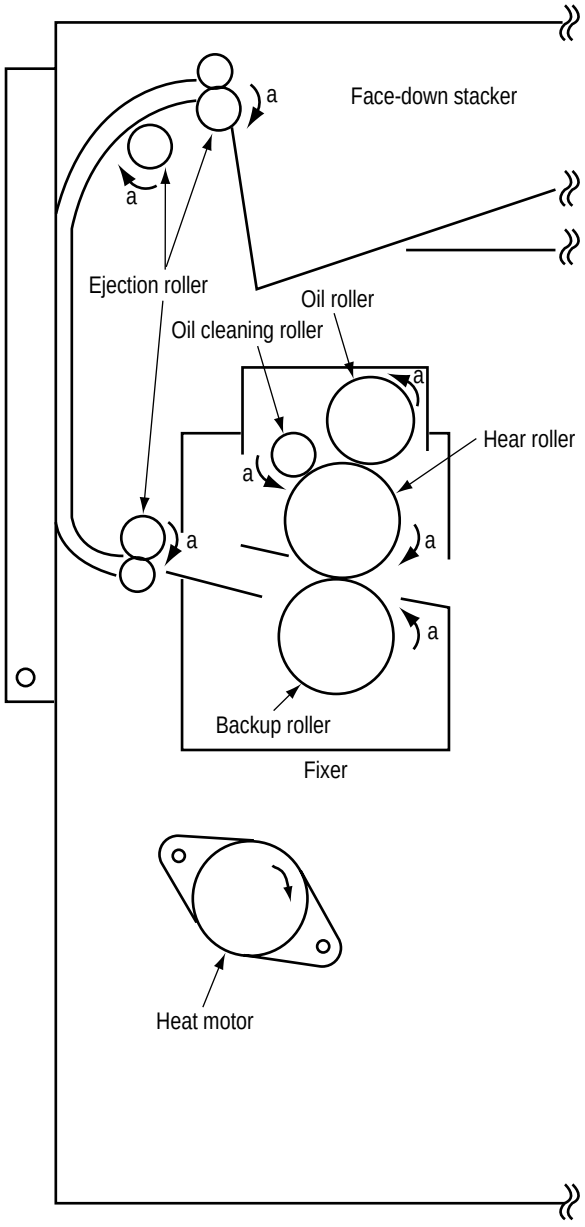


Figure 2.6-c

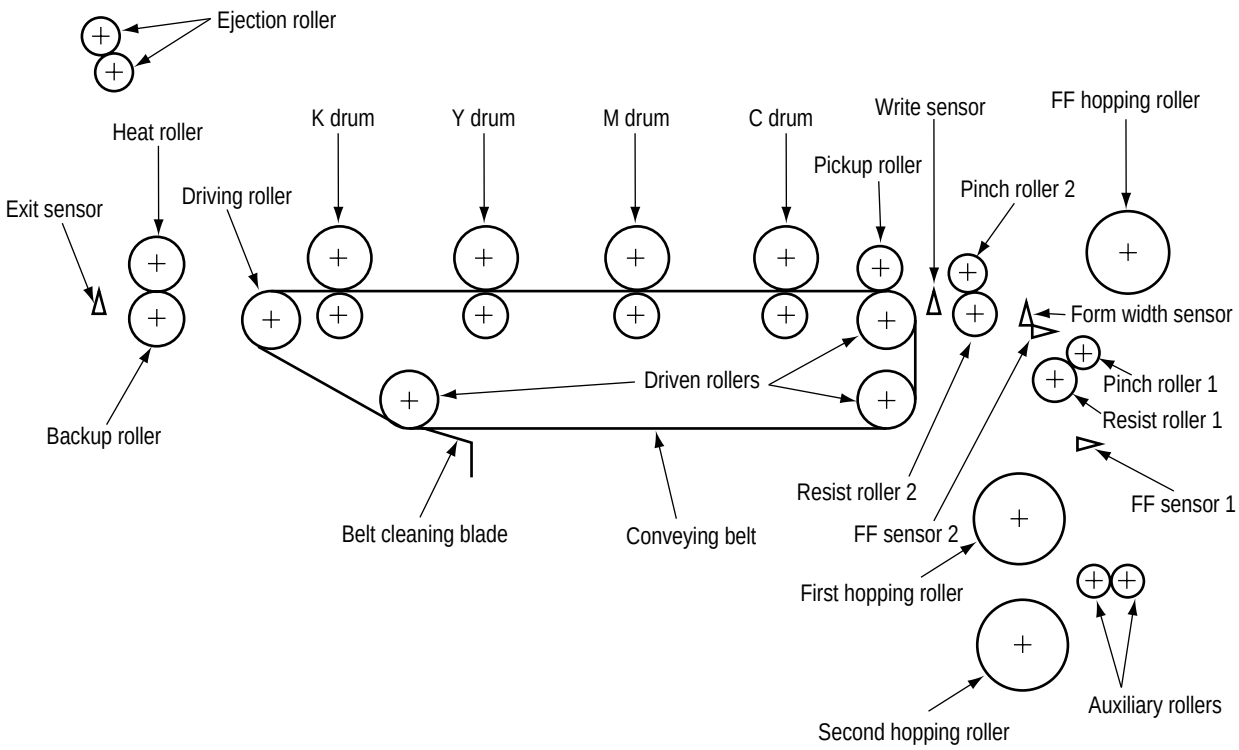
(3) Lubrication and cleaning of fixing, ejecting, and heat rollers



The fixing roller, the ejecting roller, and the heat roller are lubricated and cleaned by a single pulse motor.
When the heat roller pulse motor turns right (in the direction of “a”), the heat roller and the backup roller turn left (in the direction of “a”) to fix a toner image onto the paper.
At the same time, three ejection rollers turn right (in the direction of “a”) to eject the paper. The oil roller and the oil cleaning roller turn left (in the direction of “a”) to supply oil to the surface of the heat roller and clean the surface.

2.5 Sensors

2.5.1 Paper related sensors



Sensor	Function	Sensor status
FF sensor 1/2 (Entrance sensor 1/2)	Detects the front edge of an incoming paper and determines timing to change from hopping to conveying.	ON: Front edge detected OFF: Front edge not detected
Form width sensor	Senses the width of the paper sheet.	ON: A4 size or bigger OFF: Smaller than A4 size
Write sensor	Detects the front edge of the conveyed paper sheet and determines the length of the paper sheet from elapsed time before the front edge of the paper reaches the sensor.	ON: Form present OFF: Form absent
Ejection sensor	Detects the front and rear edges of a paper sheet and determines whether the paper is ejected.	ON: Form present OFF: Form ejected

2.5.2 Other sensors

① Form end sensor
This sensor checks whether the paper cassette is empty.

② FF form end sensor
This sensor checks whether the front feeder has paper.

③ FF home switch
This microswitch checks whether the front feeder stage is in the up or down position.

④ EP up/down sensor (one for each color Y, M, C, K)
This sensor checks whether the I/D unit is in the up or down position.

⑤ Waste toner sensor
This sensor judges whether the waste toner cartridge is full by measuring a time period at which the sensor lever turns on periodically. When the time period falls under a preset value, the system judges that the waste toner cartridge is full and displays the “waste toner full” message.

⑥ Resist up/down sensor
This sensor detects the up or down position of the resist roller 2.

⑦ Temperature sensor
Refer to 2.8 (Transfer Control according to Environmental Changes).

⑧ Humidity sensor
Refer to 2.8 (Transfer Control according to Environmental Changes).

2.6 Correction of Color Deviation

OKIPAGE 8c is equipped with an array of I/D units which cannot be from generation of color deviations. This mechanically caused color deviation is corrected electronically as shown below.

(1) Color deviations to be corrected
- ① Color deviation in the X axis (Positional error of the LED head)
- ② Diagonal color deviation (Positional error of the LED head)
- ③ Color deviation in the Y axis (Positional errors of the I/D units and light receivers)

(2) Method of correction Print out the preset color chart, compare the printed color chart by the original color chart, and enter the amount of color deviation of each color from the operator panel or from the host computer. OKIPAGE 8c calculates correction values from the entered values and changes the write timing of each color (cyan, magenta, and yellow) relative to black.

2.7 Transfer Control according to Environmental Changes (Room Temperatures and Relative Humidities)

OKIPAGE 8c measures the room temperature and humidity by the room temperature sensor and the room humidity sensor, calculates an optimum transfer voltage according to the obtained environmental conditions and realtime-controls printing with the optimum transfer voltage.

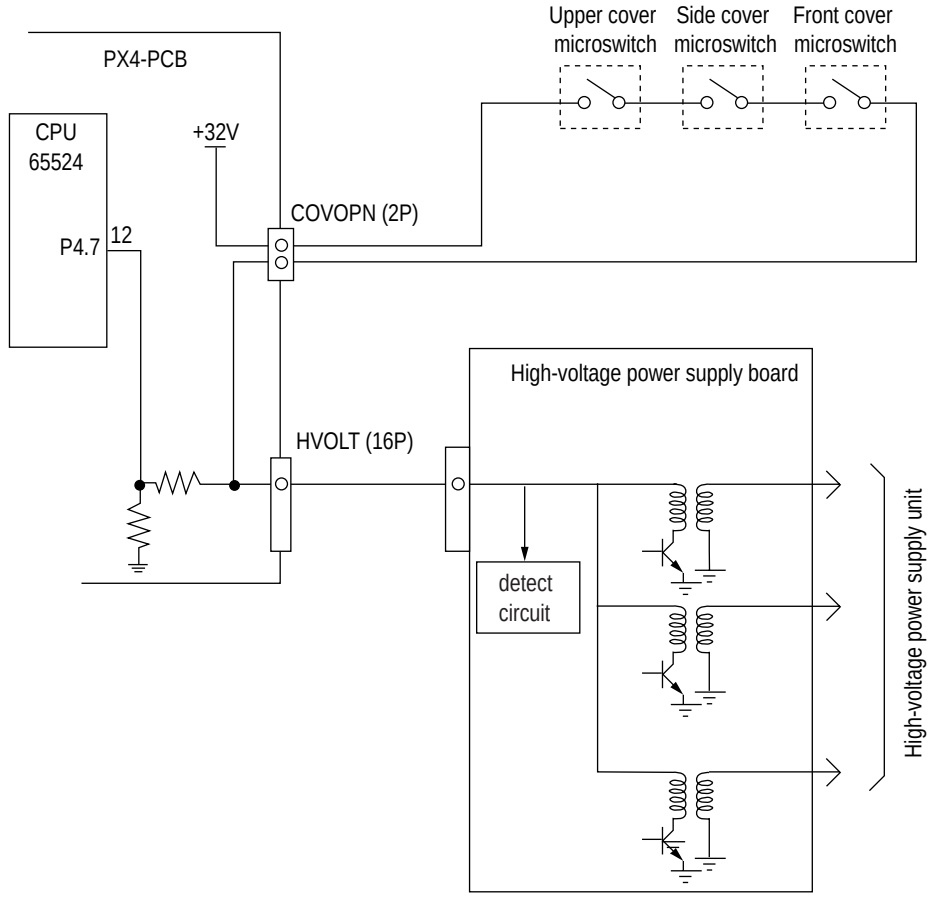
2.8 Form Jam Detection

OKICOLOR 8/ OKIPAGE 8c Plus checks for a paper jam when the page printer is powered on and during printing. When finding a paper jam, OKICOLOR 8/ OKIPAGE 8c Plus immediately stops the printing process. To recover the printer, open the cover, find and remove the jammed paper, then close the cover.

Error	Conditions
Form feed jam	Three hopping operations are made, but the Form Feed sensor (Entrance) does not turn on a preset time after the Form Feed sensor 1 turns on.
Convey jam	The ejection sensor does not turn on a preset time period after the Write sensor detects the front end of paper.
Ejection jam	The ejection sensor detected the front edge of the paper but does not detect the rear edge of the paper for a preset time period.
Form size error	The form size obtained by measuring the time period before the rear edge of the paper passes by the Form Feed sensor 2 after the front edge of the paper passed the Write sensor is longer by 45mm than the specified form length.

2.9 Cover Opening

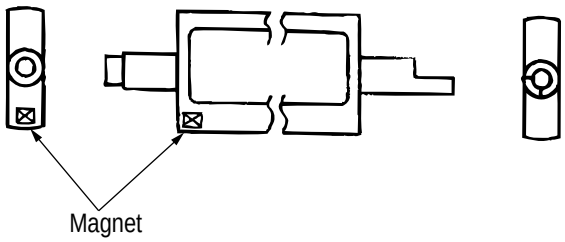
When the upper, side, or front cover of OKICOLOR 8/ OKIPAGE 8c Plus is opened, the Cover Open microswitch turns off, a voltage of 32V to the high-voltage power supply is shut off, and all high-voltage outputs are shut off. At the same time, the CPU receives a signal (CVOPN) indicating the status of the microswitch and performs the cover open process.



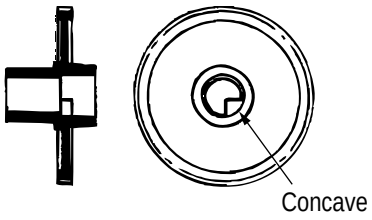
2.10 Toner Low Detection

- Composition

  The device consists of the stirring gear which rotates at a constant rate, the stirring bar and the magnet on the stirring bar. The stirring bar rotates through the engagement of concave in the stirring gear.



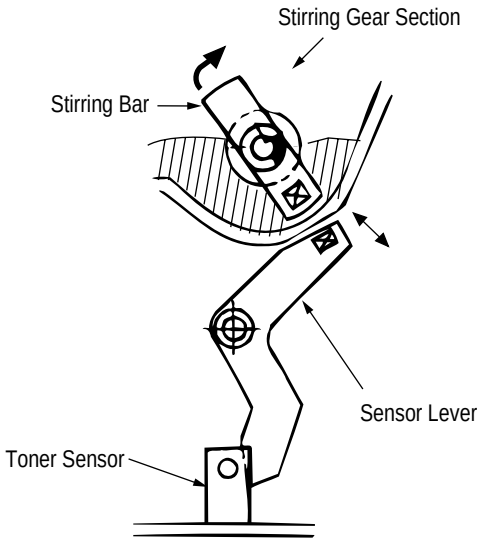
Stirring Bar



Stirring Gear

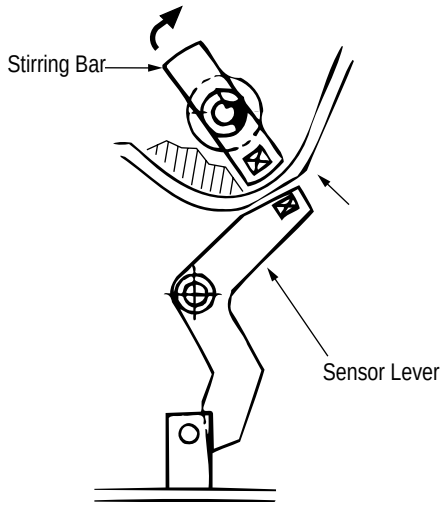
- Operation

  Toner Low is detected by monitoring the time interval of the encounter of the magnet set on the sensor lever and the magnet on the stirring bar.



Operation during toner full state

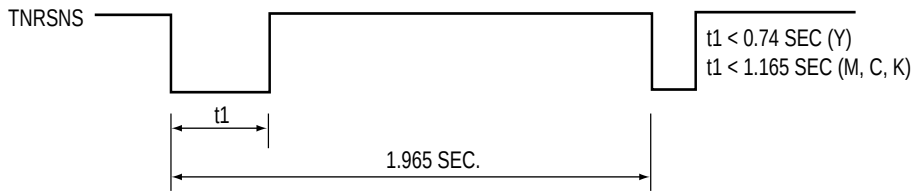
- The stirring bar rotates due to the interlocking with the stirring gear.
- Even when the magnet on the stirring bar reaches the maximum height, since the other side is being dipped in the toner, the stirring bar is pushed by the stirring gear.



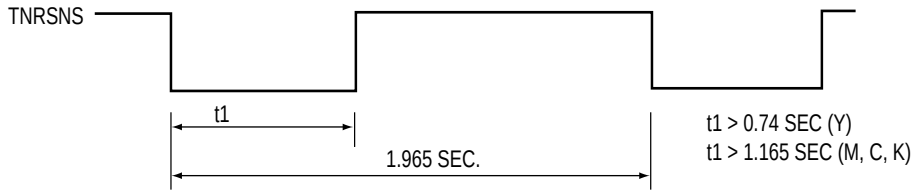
Operation during toner low state

- When the stirring bar reaches the maximum height, since there is no resistance provided by the toner on the other side, it falls to the minimum height due to its own weight. Because of this, the time interval during which it is in encounter with the magnet of the sensor lever becomes long. By monitoring this time interval, toner low can be detected.

TONER FULL state



TONER LOW state



- When the toner low state is detected for 2 times consecutively, Toner Low is established.
- When the toner full state is detected for 2 times consecutively, Toner Low is cancelled.
- When there is no change with the toner sensor for 2 cycles (1.965 sec. x 2) or more, then the Toner Sensor Alarm is activated.
- The toner sensor is not monitored while the drum motor is in halt.

2.11 Page Size Detection

The four tab pieces are driven according to the setting position of the paper guide through the cam interlocked with the paper guide of the paper cassette.

When the paper cassette is inserted into the printer, the state of the tab pieces is detected by the microswitch to recognize the paper size.

State of Microswitches				Paper size
SW1	SW2	SW3	SW4	
0	1	1	1	Letter
0	1	0	1	Executive
0	0	1	1	A4
1	1	1	0	Legal 14
1	0	1	1	Legal 13
1	1	0	1	B5
1	1	0	0	A5
1	0	0	1	A6

2.12 Power-on Processing

2.12.1 Self-diagnostic test

(1) Initial test
The following checks are automatically performed when the OKICOLOR 8 / OKIPAGE 8c Plus page printer is powered on:
(a) ROM check
(b) RAM check
(c) EEPROM check
(d) Flash ROM check

(2) ROM check
(a) Checks ROM by comparing the sum of bits in the received data unit by the number of bits in the transferred data unit.

(3) RAM check
(a) Checks RAM by writing a preset data pattern in RAM, reading the contents of RAM, and comparing the data read from RAM by the data written in RAM. (Write-read test)
(b) Checks optional RAM if it is installed.
(c) Checks resident RAM by exclusively ORing high and low addresses (to prepare 16-bit data units), writing a preset 16-bit data pattern in RAM, reading the contents of RAM, and comparing the data read from RAM by the data written in RAM. Checks optional RAM by writing and reading 32-bit fixed patterns (“5555h” and “aaaah”) in optional RAM.

(4) EEPROM check
(a) Checks ID numbers stored in the fixed addresses of EEPROM.
(b) Checks the content of the menu area by control firmware and the engine area by engine firmware.

(5) Flash ROM check
Checks Flash ROM by writing a present data pattern in Flash ROM, reading the contents ofFlash ROM, and comparing the data read from Flash ROM by the data written in Flash ROM. (Write-read test).

(6) Option unit check
Checks whether the optional units (such as the second tray, PS SIMM, and so on) have been installed before entering the operation mode.

3. PARTS REPLACEMENT

The section explains the procedures for replacement of parts, assemblies, and units in the field. Only the removal procedures are explained here. Reverse the procedure for the installation.

3.1 Precautions for Parts Replacement

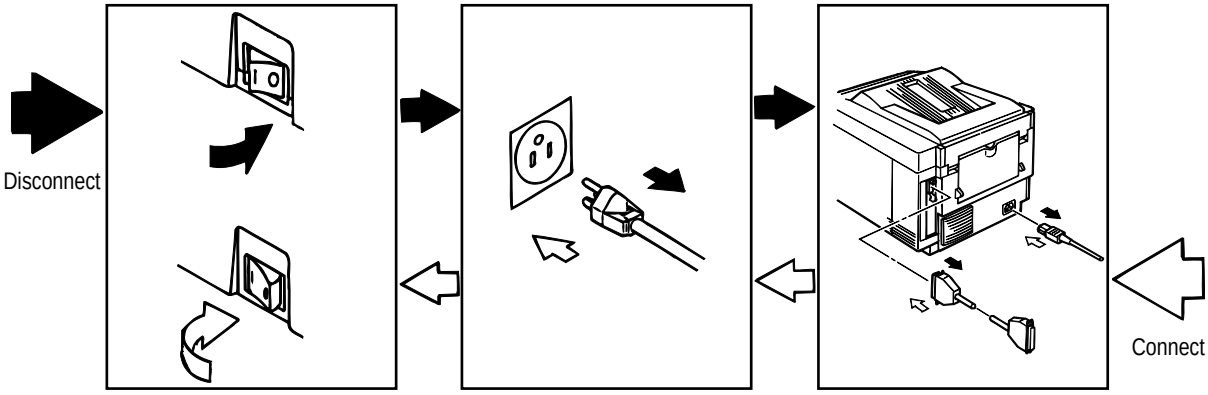
(1) Before starting parts replacement, remove the AC cable and interface cable.

(a) Remove the AC cable in the following procedure:

i) Turn off ("o") the power switch of the printer
ii) Disconnect the AC inlet plug of the AC cable from the AC receptacle.
iii) Disconnect the AC cable and interface cable from the printer.

(b) Reconnect the printer in the following procedure.

i) Connect the AC cable and interface cable to the printer.
ii) Connect the AC inlet plug to the AC receptacle.
iii) Turn on ("I") the power switch of the printer.



(2) Do not try disassembly as long as the printer is operating normally.

(3) Do not remove unnecessary parts: try to keep disassembly to a minimum.

(4) Use specified service tools.

(5) When disassembling, follow the determined sequence. Otherwise, parts may be damaged.

(6) Since screws, collars and other small parts are likely to be lost, they should temporarily be attached to the orginal positions.

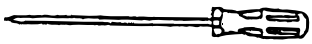
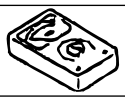
(7) When handling ICs such as microprocessors, ROM and RAM, and circuit boards, do not wear gloves that are likely to generate static electricity.

(8) Do not place printed circuit boards directly on the equipment or floor.

[Service Tools]

Table 3-1 shows the tools required for field replacement of printed circuit boards and units.

Table 3-1 Service Tools

No.	Service Tools		Q' ty	Place of use	Remarks
1		No. 1-100 Philips screwdriver	1	2~2.5 mm screws	
2		No. 2-200 Philips screwdriver, Magnetized	1	3~5 mm screws	
3		No. 3-100 screwdriver	1		
4		No. 5-200 screwdriver	1		
5		Digital multimeter	1		
6		Pliers	1		
7		Handy cleaner	1		
8		LED Head cleaner P/N 4PB4083-2248P1	1	Cleans LED head	
9		Tweezers	1		

3.2 Parts Layout

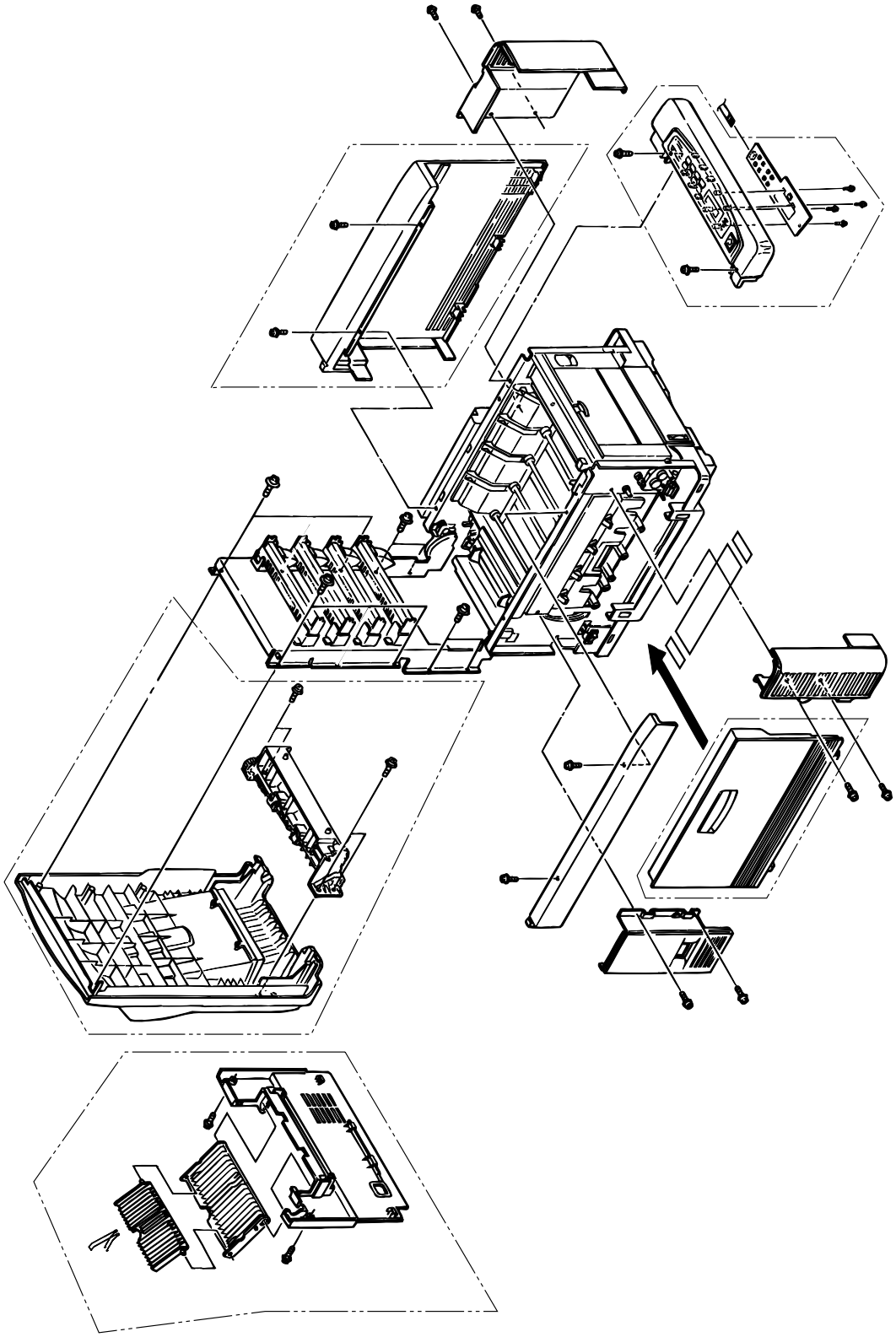


Figure 3-1

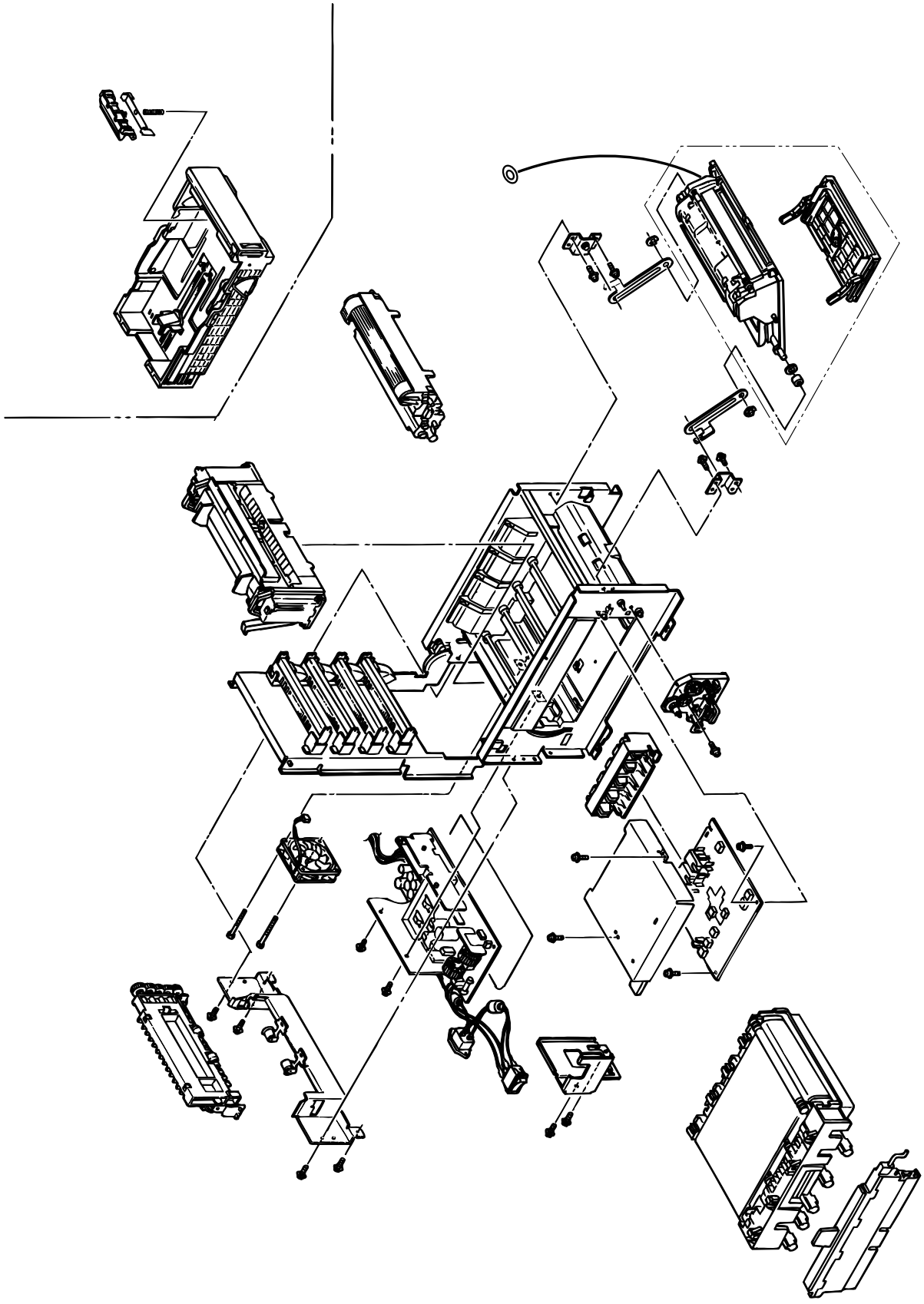


Figure 3-2

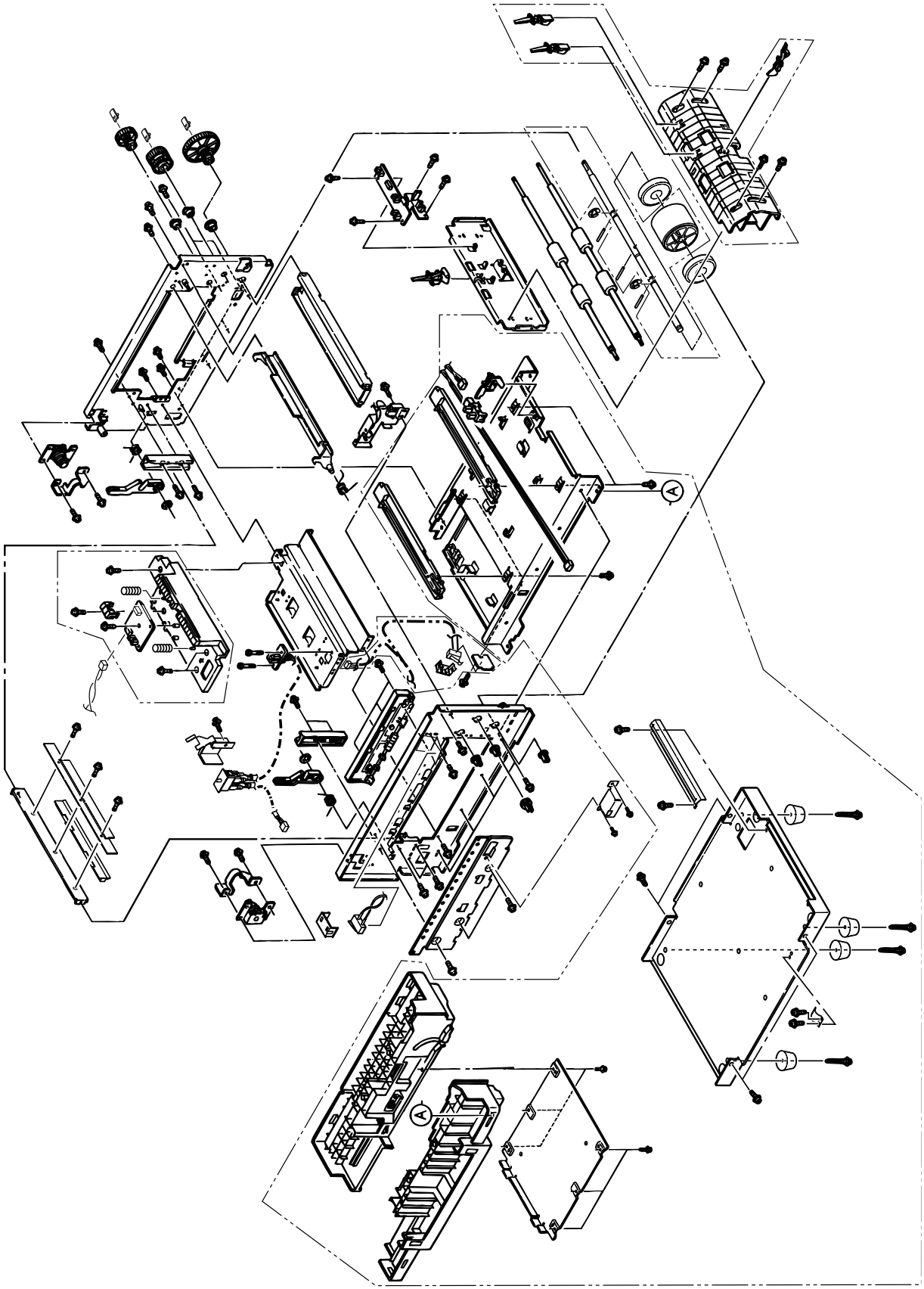


Figure 3-3

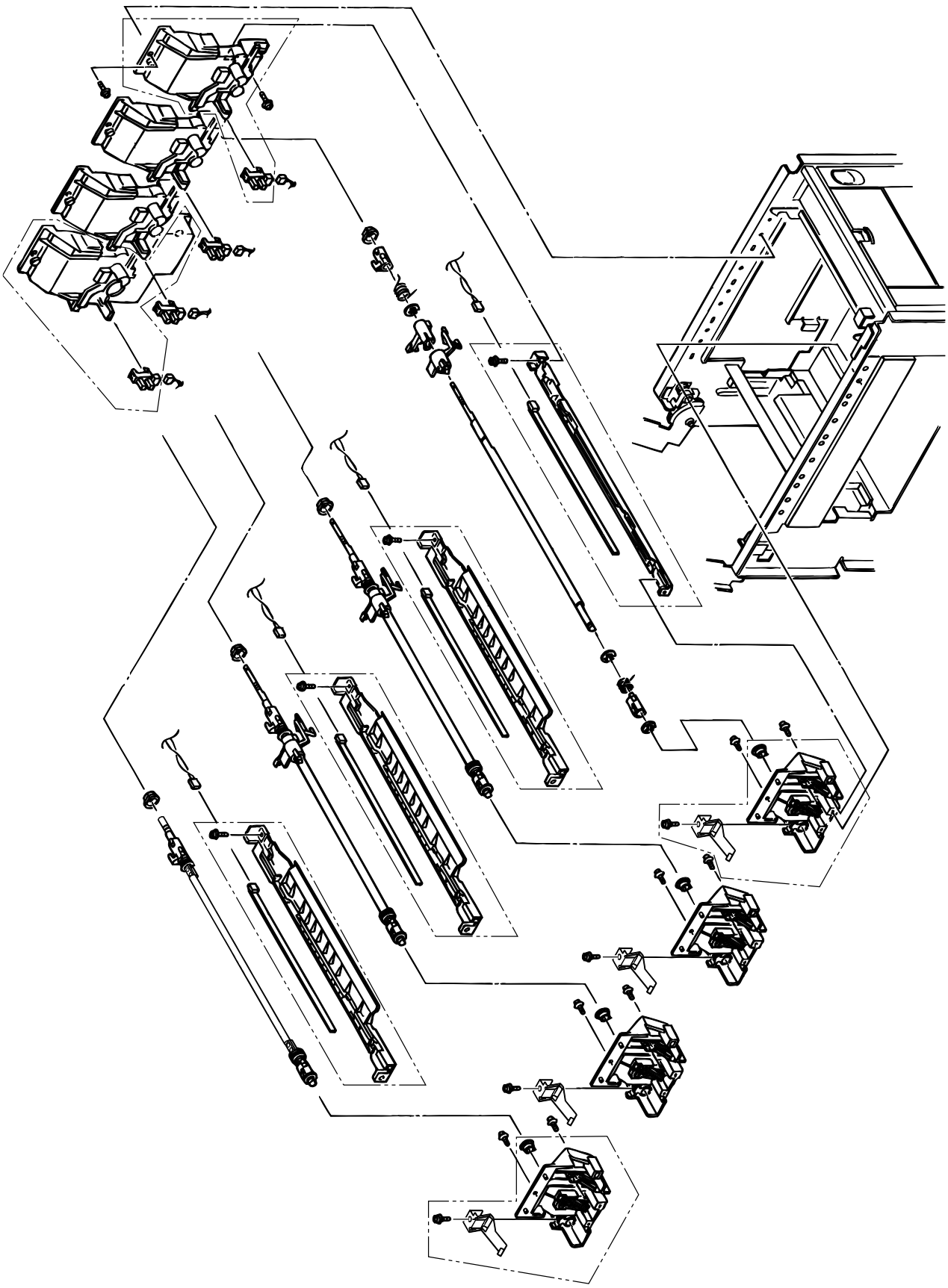
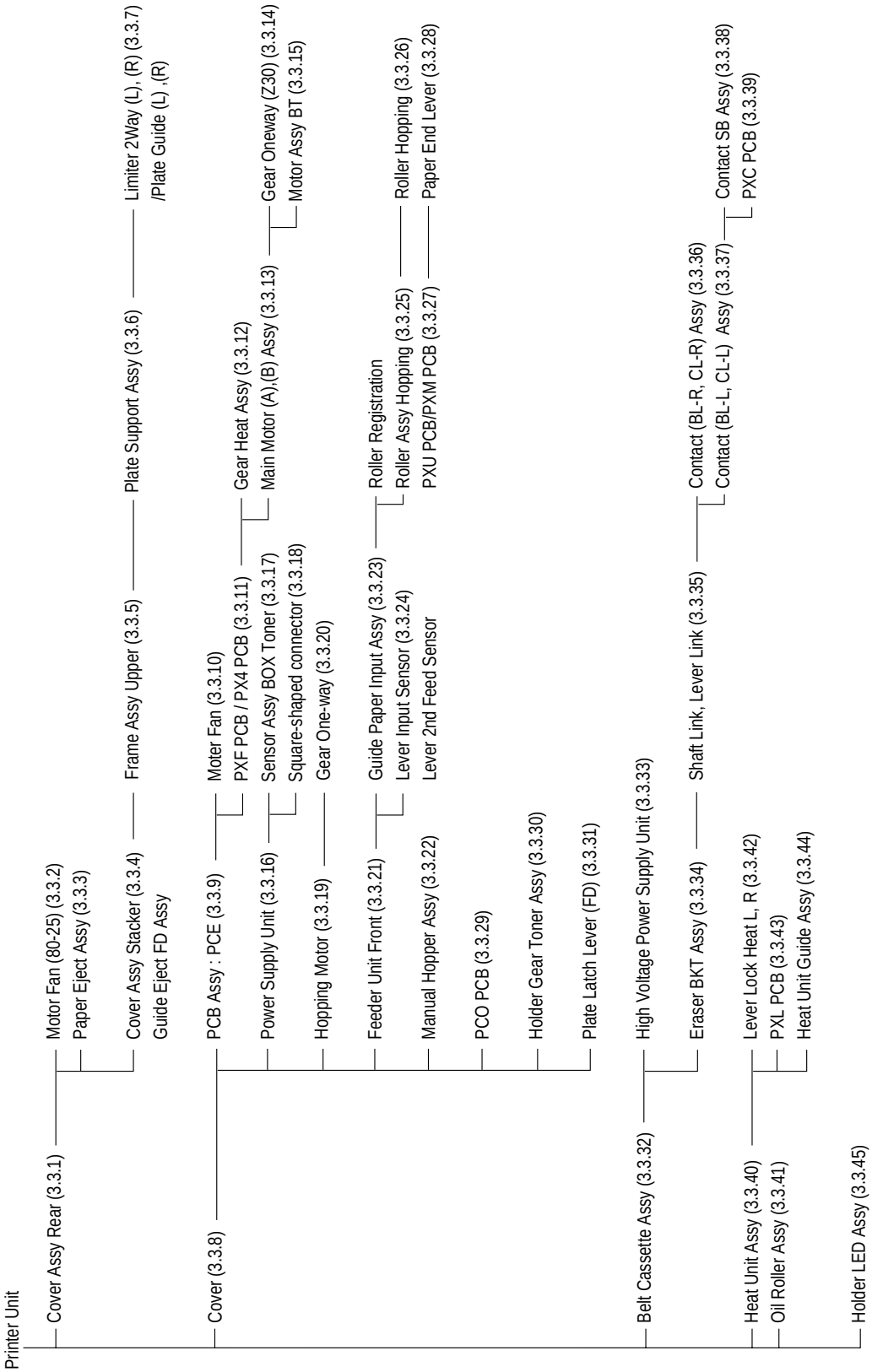


Figure 3-4

3.3 How to Change Parts

This section explains how to change parts and assemblies appearing in the disassembly diagram below.


Printer Unit
Cover Assy Rear (3.3.1)
Motor Fan (80-25) (3.3.2)
Paper Eject Assy (3.3.3)
Cover Assy Stacker (3.3.4)
Guide Eject FD Assy
Frame Assy Upper (3.3.5)
Plate Support Assy (3.3.6)
Limiter 2Way (L), (R) (3.3.7)
/Plate Guide (L) ,(R)
Cover (3.3.8)
PCB Assy : PCE (3.3.9)
Moter Fan (3.3.10)
PXF PCB / PX4 PCB (3.3.11)
Gear Heat Assy (3.3.12)
Power Supply Unit (3.3.16)
Sensor Assy BOX Toner (3.3.17)
Main Motor (A),(B) Assy (3.3.13)
Gear Oneway (Z30) (3.3.14)
Square-shaped connector (3.3.18)
Motor Assy BT (3.3.15)
Hopping Motor (3.3.19)
Gear One-way (3.3.20)
Feeder Unit Front (3.3.21)
Guide Paper Input Assy (3.3.23)
Roller Registration
Lever Input Sensor (3.3.24)
Roller Assy Hopping (3.3.25)
Roller Hopping (3.3.26)
Manual Hopper Assy (3.3.22)
Lever 2nd Feed Sensor
PXU PCB/PXM PCB (3.3.27)
Paper End Lever (3.3.28)
PCO PCB (3.3.29)
Holder Gear Toner Assy (3.3.30)
Plate Latch Lever (FD) (3.3.31)
Belt Cassette Assy (3.3.32)
High Voltage Power Supply Unit (3.3.33)
Eraser BKT Assy (3.3.34)
Shaft Link, Lever Link (3.3.35)
Contact (BL-R, CL-R) Assy (3.3.36)
Contact (BL-L, CL-L) Assy (3.3.37)
Contact SB Assy (3.3.38)
PXC PCB (3.3.39)
Heat Unit Assy (3.3.40)
Lever Lock Heat L, R (3.3.42)
Oil Roller Assy (3.3.41)
PXL PCB (3.3.43)
Heat Unit Guide Assy (3.3.44)
Holder LED Assy (3.3.45)

3.3.1 Cover Assy Rear

1. Unscrew 2 screws ① then lift the cover assy rear ② a little bit, then remove the cover assy rear by releasing the lock of two claws.

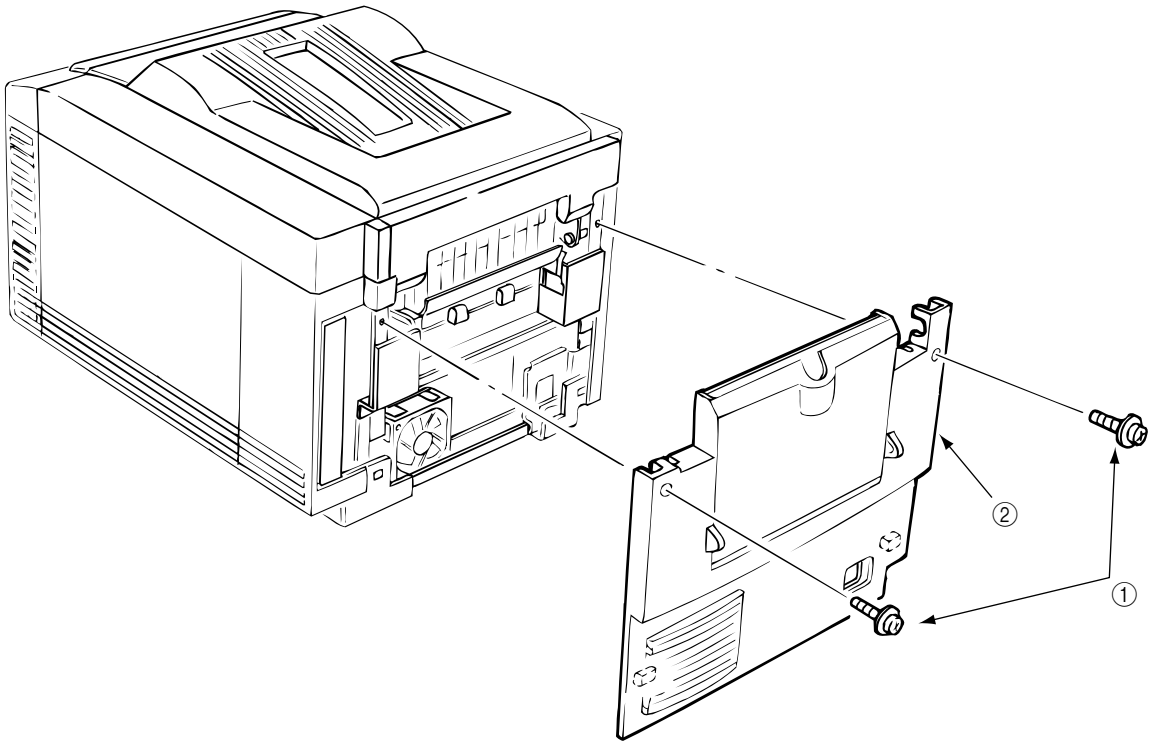


Figure 3.3.1 Cover Assy Rear

3.3.2 Motor-Fan (80-25)

1. Remove the cover assy rear. (See 3.3.1)
2. Unscrew 2 screws ①.
3. Detach the motor-fan ② from the guide with its right side lifted then draw the motor-fan.
4. Unplug the cable ③ then remove the motor-fan ②.

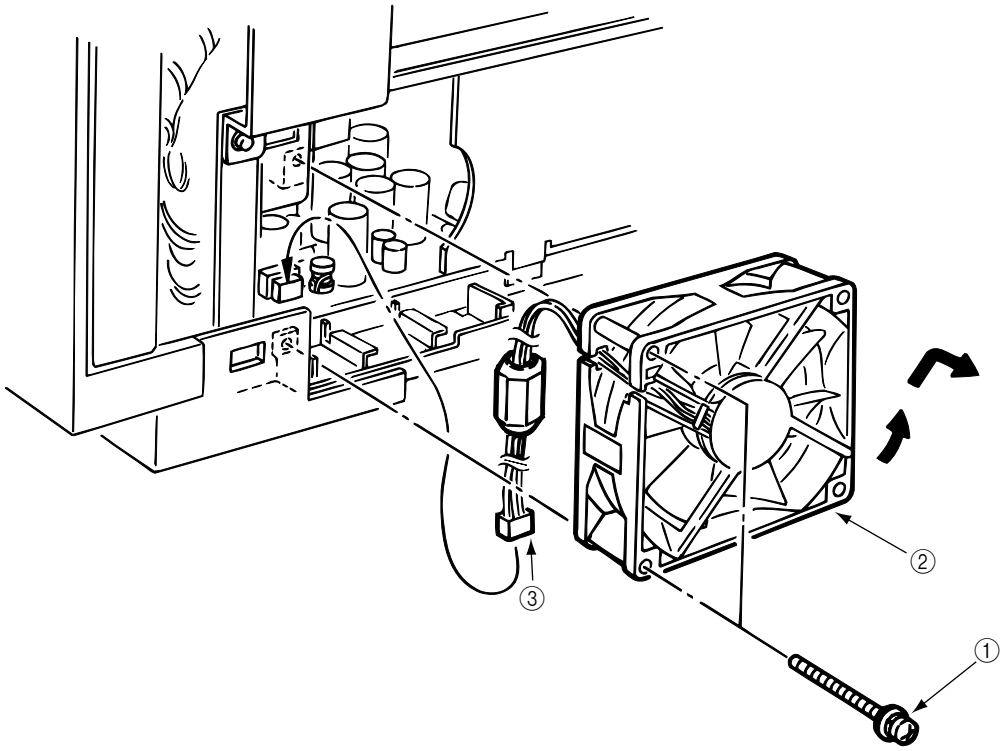


Figure 3.3.2 Motor-Fan (80-25)

3.3.3 Paper Eject Assy

The paper eject assy comprises the frame eject assy and the guide paper eject assy.

1. Remove the cover assy rear. (See 3.3.1)
2. Open the top cover.
3. Unscrew 4 screws ① then remove the frame eject assy ②.
4. Remove the guide paper eject assy ③ by releasing the lock of one claw.

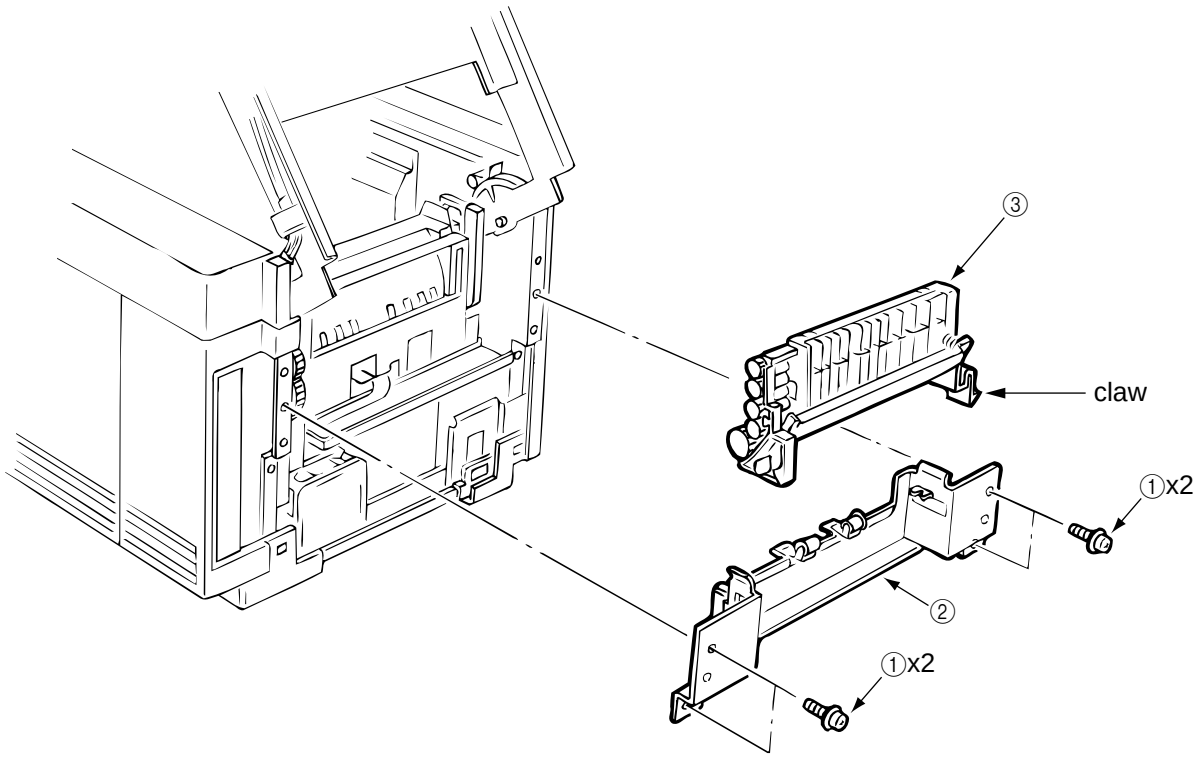


Figure 3.3.3 Paper Eject Assy

3.3.4 Cover Assy Stacker, Guide Eject FD Assy

Remove the belt cassette assy and the heat unit assy.

1. Remove the cover assy rear. (See 3.3.1)
2. Detach the cable from the cable clamp ① by releasing its lock.
3. Unscrew 8 screws ② then remove the cover assy stacker.
4. Unscrew 4 screws ④ then remove the guide eject FD assy ⑤.

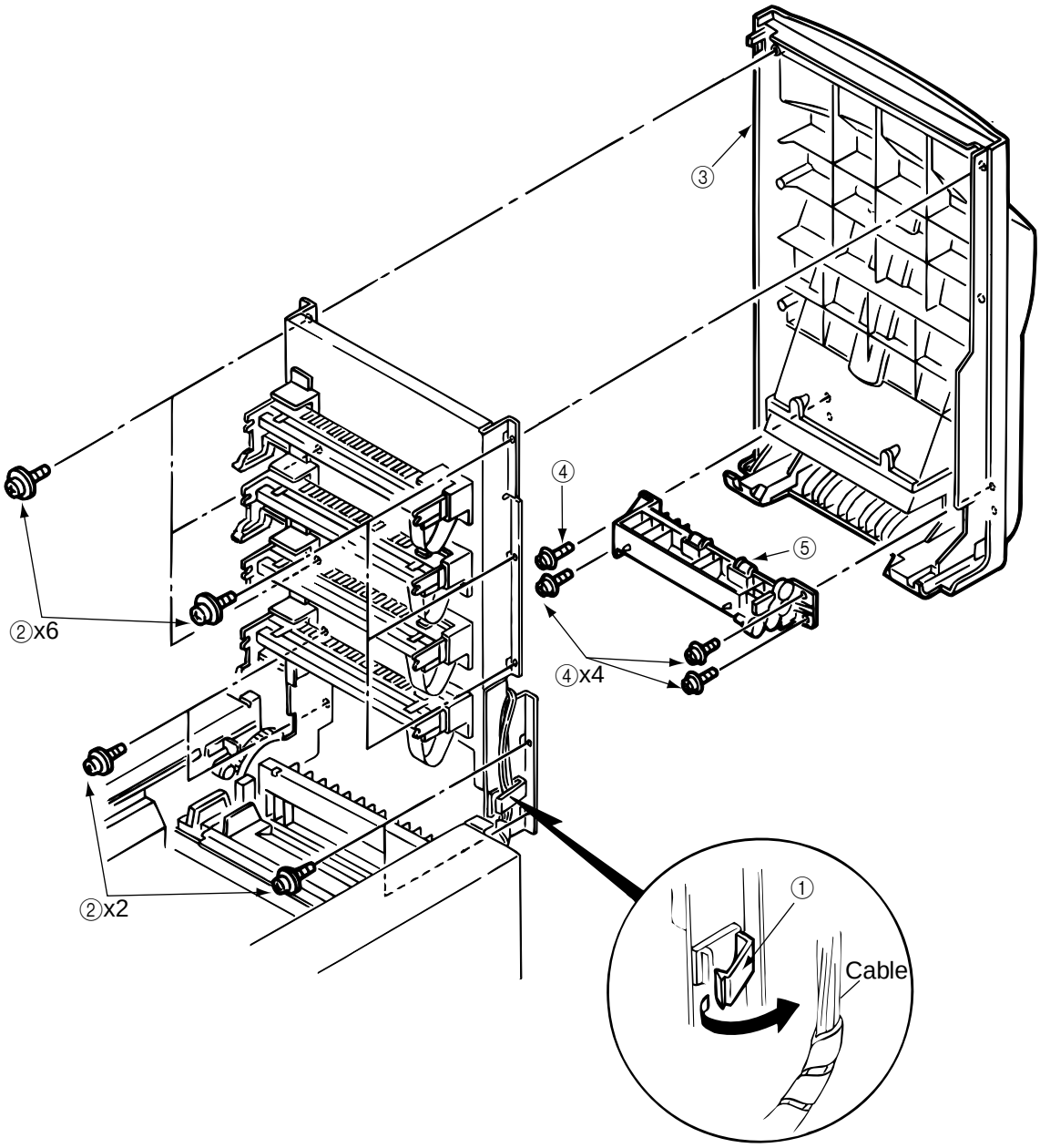


Figure 3.3.4 Cover Assy Stacker, Guide Eject FD Assy

3.3.5 Frame Assy Upper

1. Remove the cover assy rear. (See 3.3.1.)
2. Remove the cover assy stacker. (See 3.3.4.)
3. Remove the holder LED assy. (See 3.3.45.)
4. Detach the cable from the cable clamp ① by releasing its lock.
5. Remove connections of 4 connector cables ② and 4 cables ③.
6. Unscrew 4 screws ④ then remove the PCB ⑤.
7. Unscrew 2 screw ⑥ then remove Holder ⑦ by releasing the clamp of the claw.
8. Unscrew 4 screws ⑧ then remove the frame assy upper ⑨.

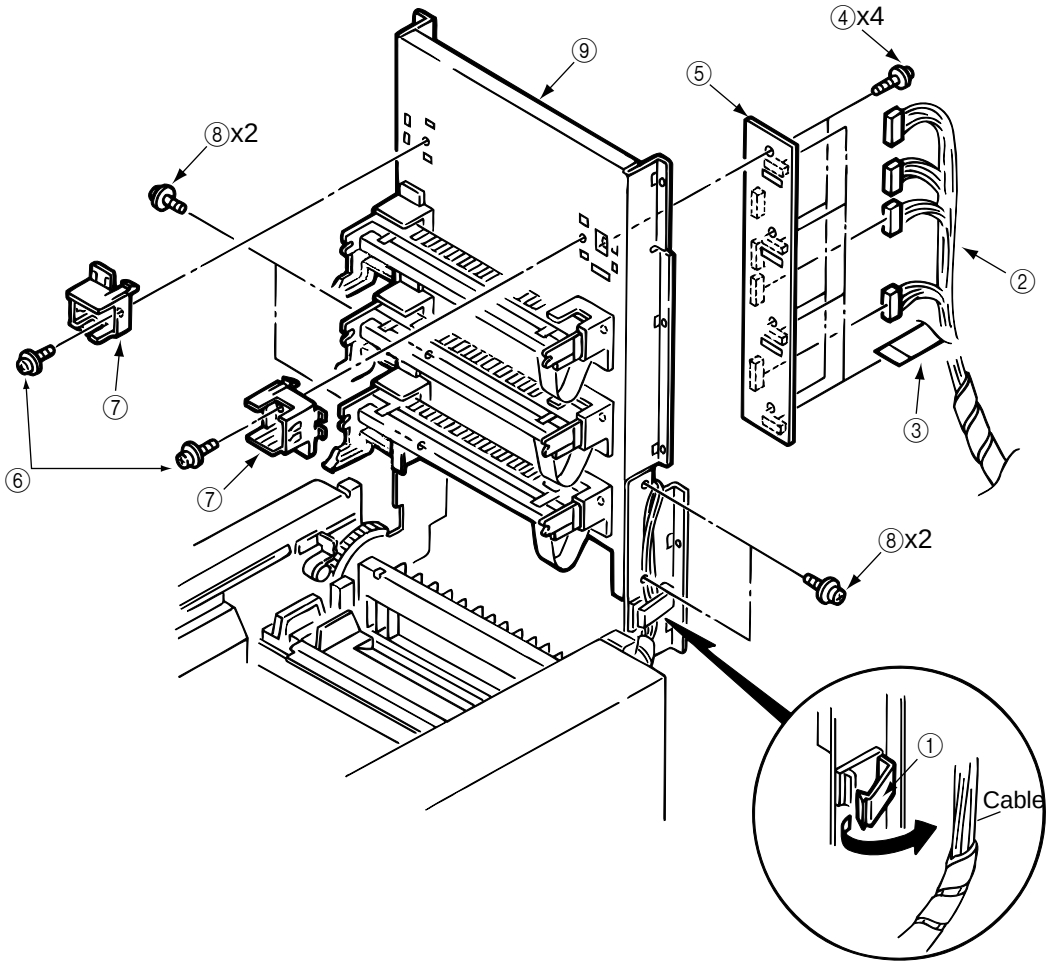


Figure 3.3.5 Frame Assy Upper

3.3.6 Plate Support Assy

The plate support assemblies are provided right and left. The method of those replacements is the same.

1. Remove the heat unit assy. (See 3.3.40)
2. Remove the cover assy rear. (See 3.3.1)
3. Remove the cover assy stacker. (See 3.3.4)
4. Remove the frame assy upper. (See 3.3.5)
5. Detach the cable from the cable clamp ① by releasing its lock.
6. Unscrew 2 screws ② then remove the plate support assy ③.
   (Be careful not to lose the spring ④ which is removed with the plate support assy ③.)

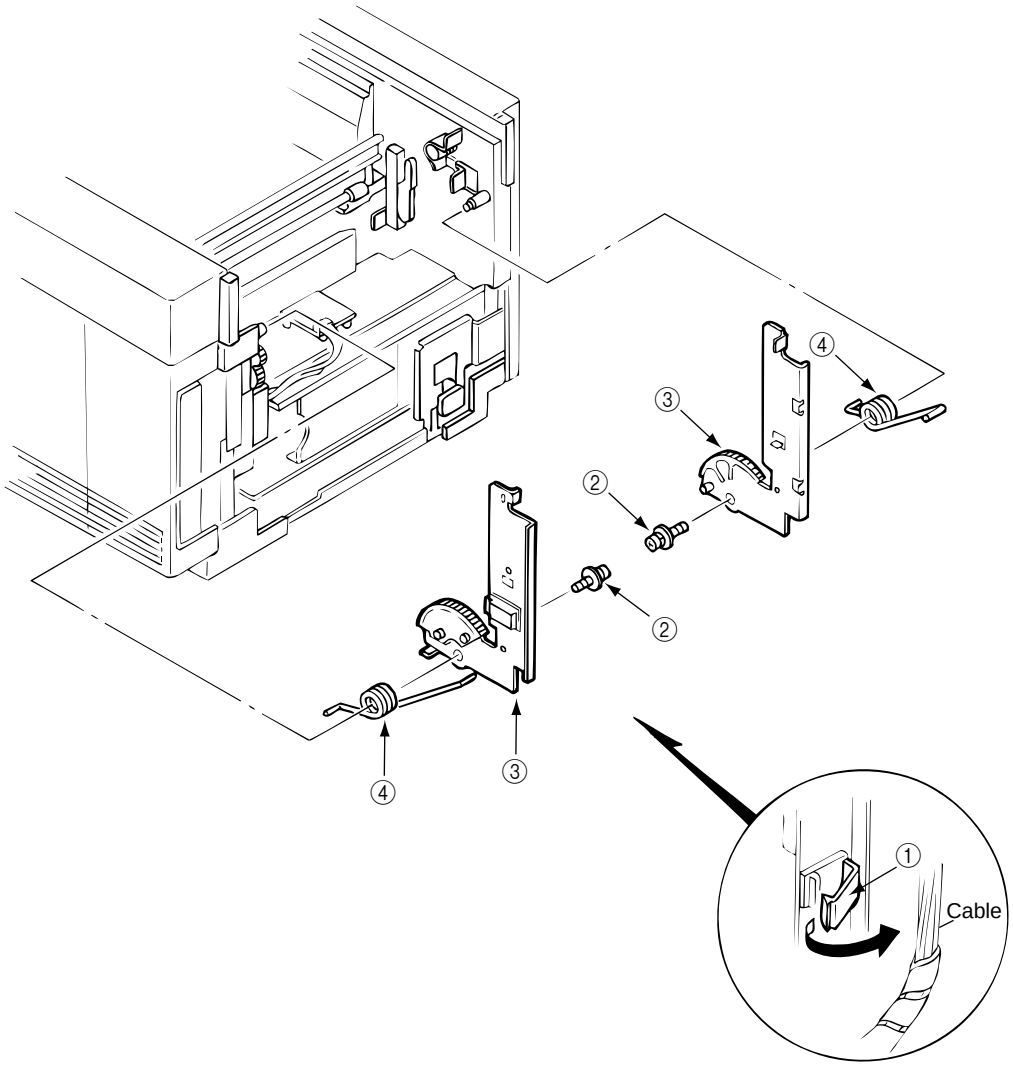


Figure 3.3.6 Plate Support Assy

3.3.7 Limiter 2way (L), (R) / Plate Guide (L) , (R)

1. Remove the plate support assy (L) and (R). (See 3.3.6)
2. Unscrew 2 screws ① then remove the limiter 2way (L) ② and the plate guide (L) ③.
3. Unscrew 2 screws ④ then remove limiter 2way (R) ⑤ and the plate guide (R) ⑥.

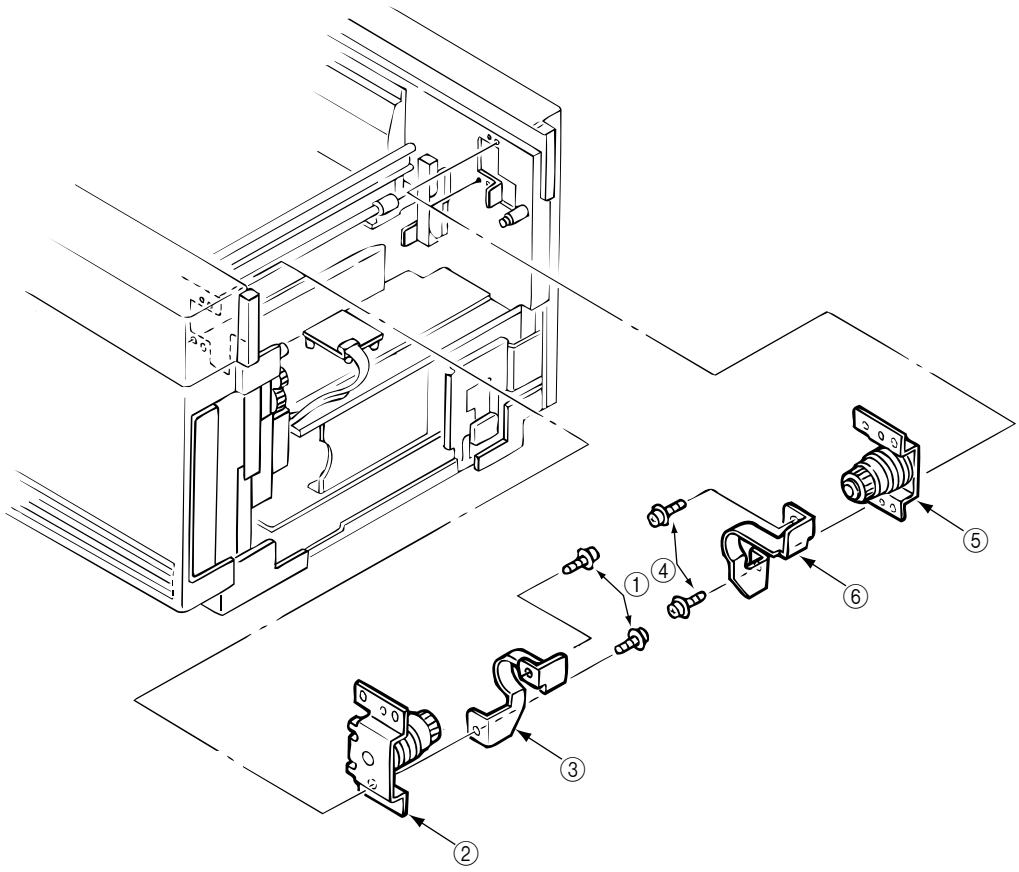


Figure 3.3.7 Limiter 2way (L), (R) / Plate Guide (L) , (R)

3.3.8 Cover

Describes the method of removing the cover assy side (L)/(R), cover assy OP panel, cover front (L)/(R) and the cover rear (L).

Remove the belt cassette assy and the heat unit assy.

1. Remove the cover assy rear. (See 3.3.1)
2. Remove the cover assy stacker. (See 3.3.4)
3. Unscrew 2 screws ① then remove the frame side (L) ②.
4. Unscrew 2 screws ③ then release the lock of the claw with the cover assy side (R) ④ lifted a little bit, then remove the cover assy side (R).
5. Unplug the operator panel cable ⑤ from the PCM PCB.
6. Open the FDR unit front in the arrow direction.
7. Unscrew 2 screws ⑥ then remove the cover assy OP panel⑦.
8. Unscrew 2 screws ⑧ then release the lock of the claw with the cover front (R) ⑨ pushed up then remove the cover front (R).
9. Unscrew 2 screws ⑩ then remove the cover front (L) ⑪.
10. Unscrew 2 screws ⑫ then remove the cover rear (L) ⑬.
11. Pull off the film ⑮ glued on the cassette guide.
11. Release the engagement with the guide by lifting the cover assy side (L) ⑭, then remove the cover assy side (L).

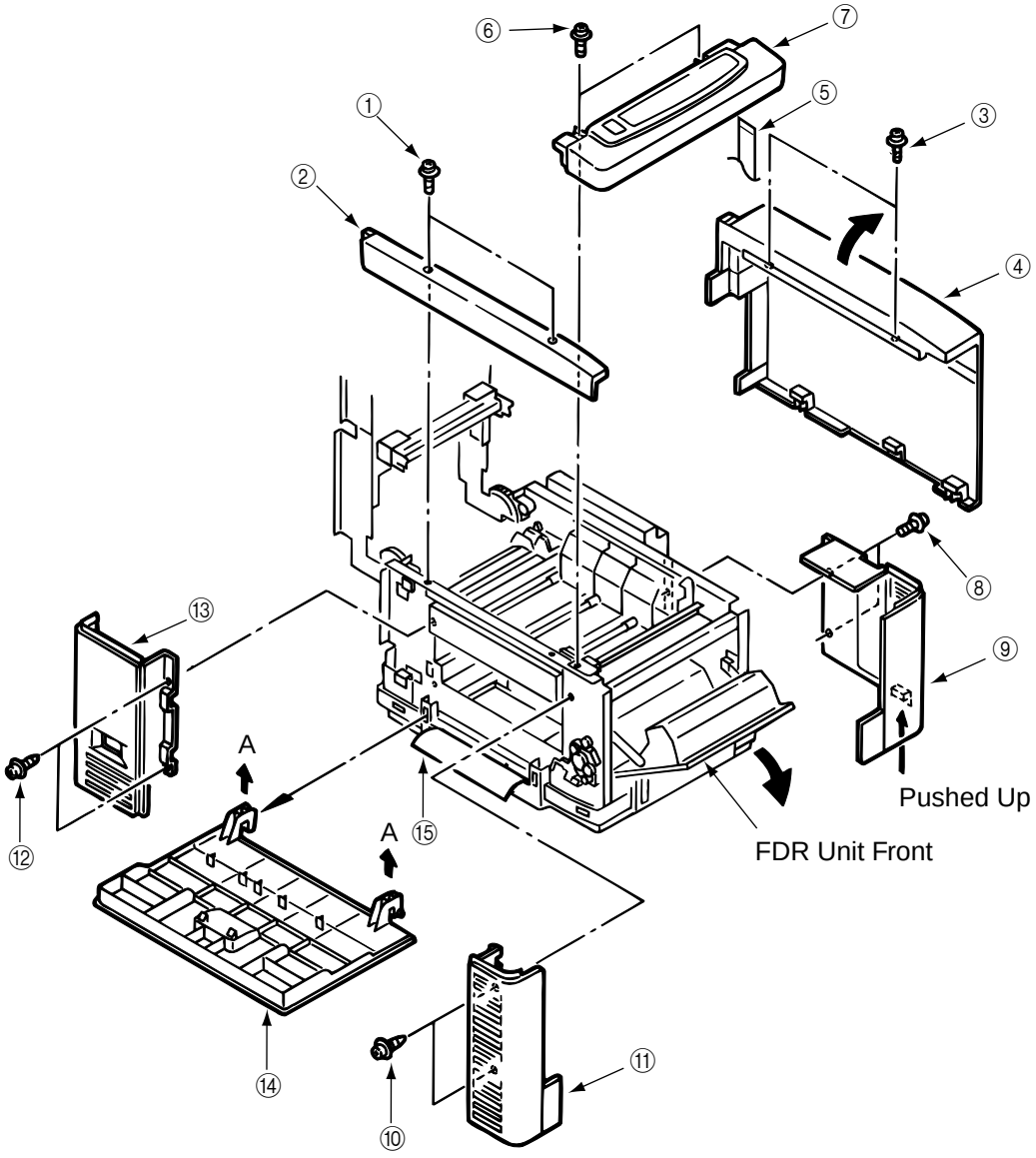


Figure 3.3.8 Cover

3.3.9 PCB Assy : PCE

Remove the belt cassette assy and the heat unit assy.

1. Open the top cover.
2. Unscrew 2 screws ① to release the lock of the claw by lifting the cover assy side (R) ② a little bit, then remove the cover assy side (R).
3. Unscrew 2 screws ⑧ to remove the plate shieled (CU) ⑨.
4. Unscrew 3 screws ③ to remove the plate shield ④.
5. Unplug the operator panel cable ⑤ from the PCE PCB.
6. Unscrew 8 screws ⑥ to remove the PCB assy : PCE ⑦.

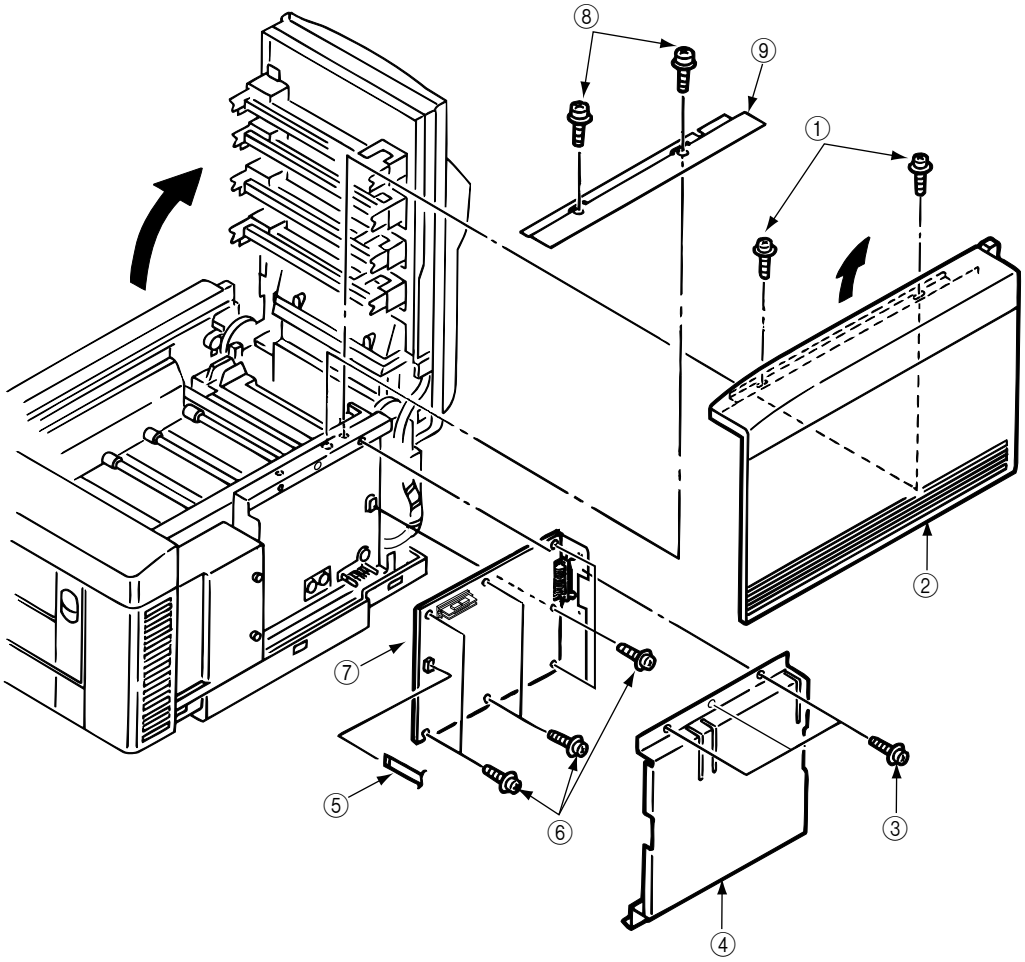


Figure 3.3.9 PCB Assy : PCR

3.3.10 Motor Fan (CU)

1. Open the top cover.
2. Remove the cover assy side (R), frame side (L), cover assy OP panel and the cover front (R). (See 3.3.8)
3. Unplug the cable ① and unscrew 2 screws ②, 2 collars ④ and then remove the motor fan (CU) ③.

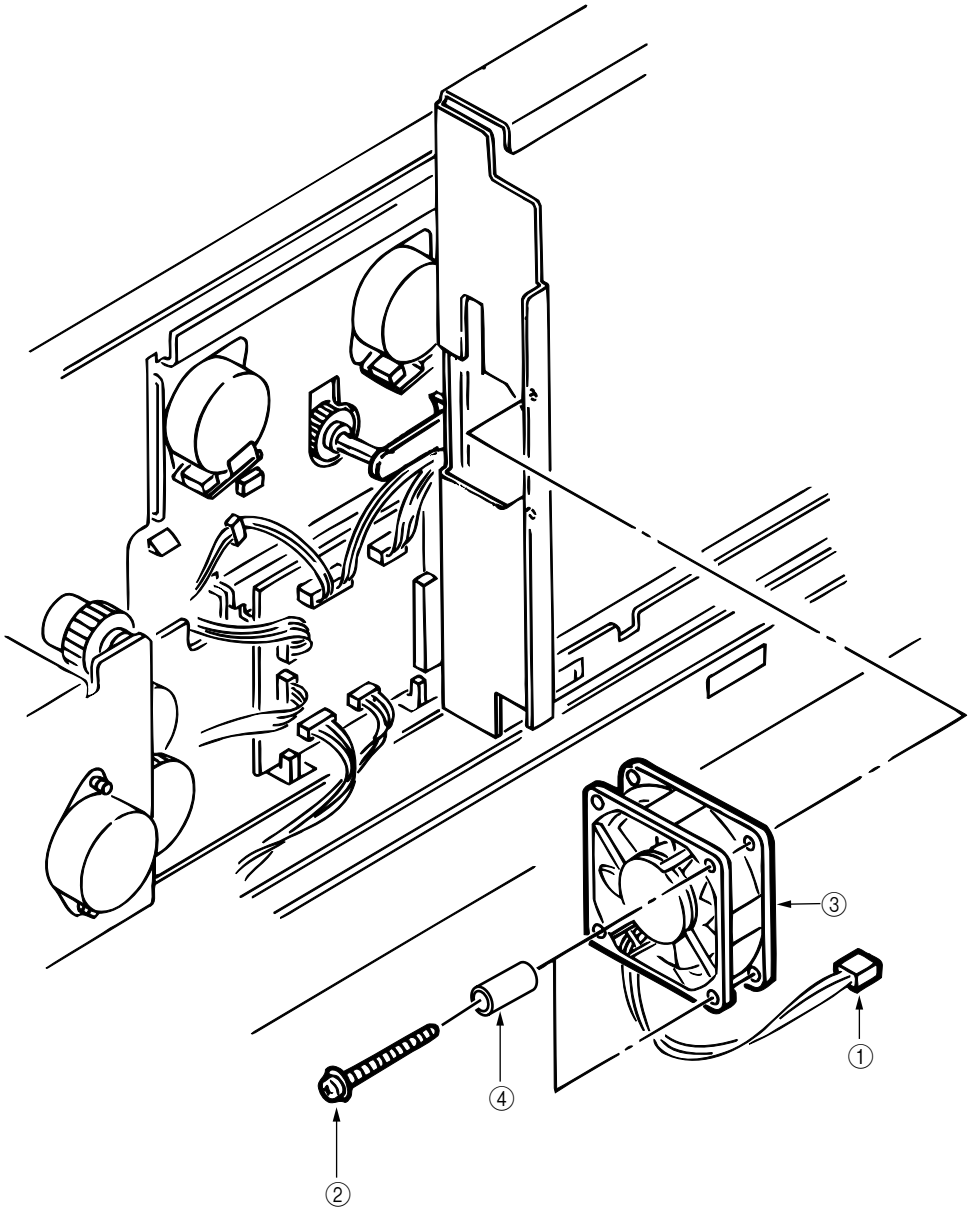


Figure 3.3.10 Motor Fan (CU)

3.3.11 PXF PCB/PX4 PCB

Since the PXF PCB and PX4 PCB are connected with each other via the connector, remove them at the same time.

1. Remove the PCB assy : PCE. (See 3.3.9)
2. Unscrew 5 screws ① then remove the cover CU②.
3. Unplug all the cables ⑤ connected to the PXF PCB ③ and PX4 PCB ④.
4. Unscrew 5 screws ⑥ then remove the PXF PCB③ and PX4 PCB④ at the same time.

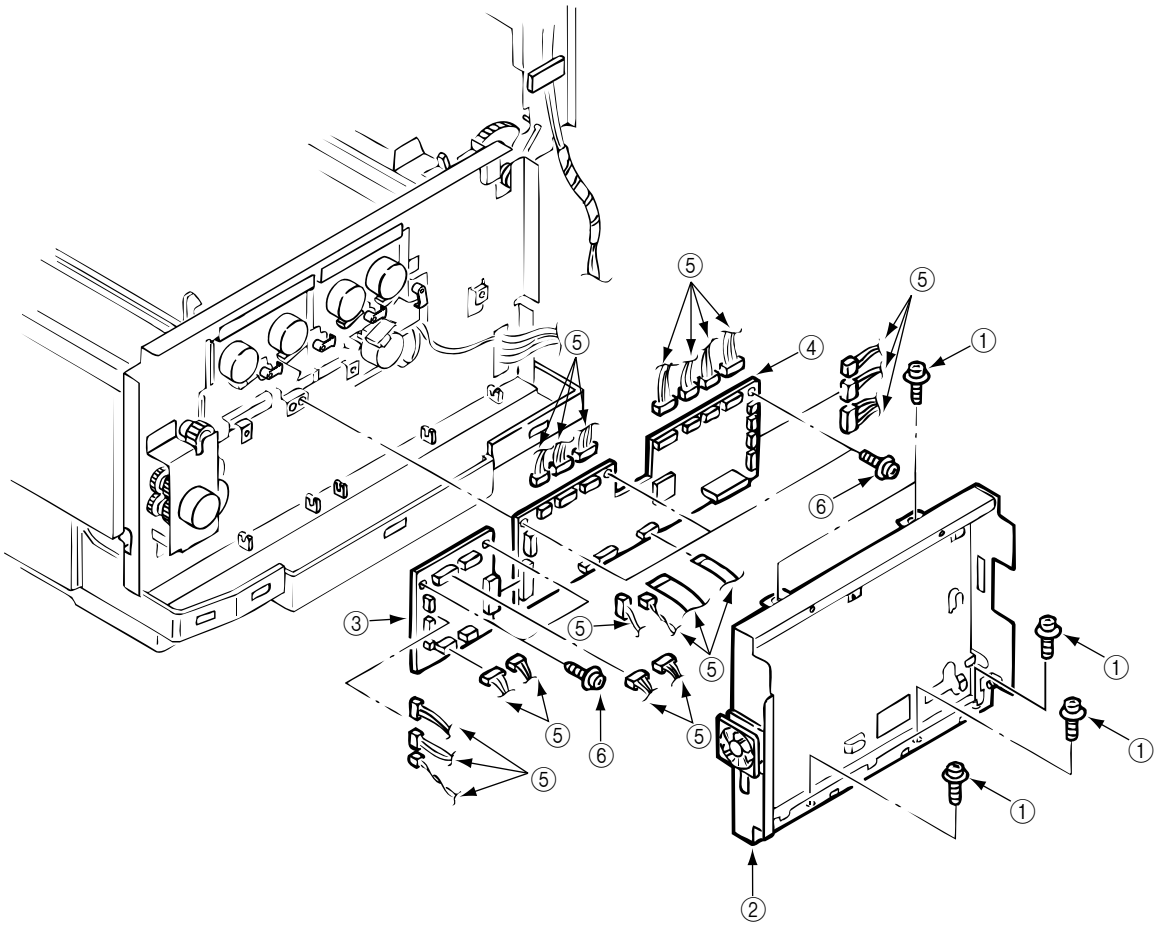


Figure 3.3.11 PXF PCB/PXS PCB

3.3.12 Gear Heat Assy

1. Remove the cover assy side (R), cover assy OP panel, cover front (R) and the cover rear (L). (See 3.3.8)
2. Remove the cover CU then unplug all the cables connected to the PXS PCB and unscrew 3 screws. (See 3.3.11)
3. Unplug all the cables connected to the PXF PCB then remove the PX4 PCB. (See 3.3.11) (Be careful not to damage the connector when unplugging cables connected to the PXF PCB.)
4. Remove the heat unit assy. (See 3.3.40)
5. Remove the guide paper eject assy. (See 3.3.3)
6. Remove the motor fan (80-25). (See 3.3.2)
7. Unscrew 5 screws ① and unplug the cable ② then remove the guide heat assy ③.
8. Unscrew 2 screws ④ then remove the motor (ID)⑤.

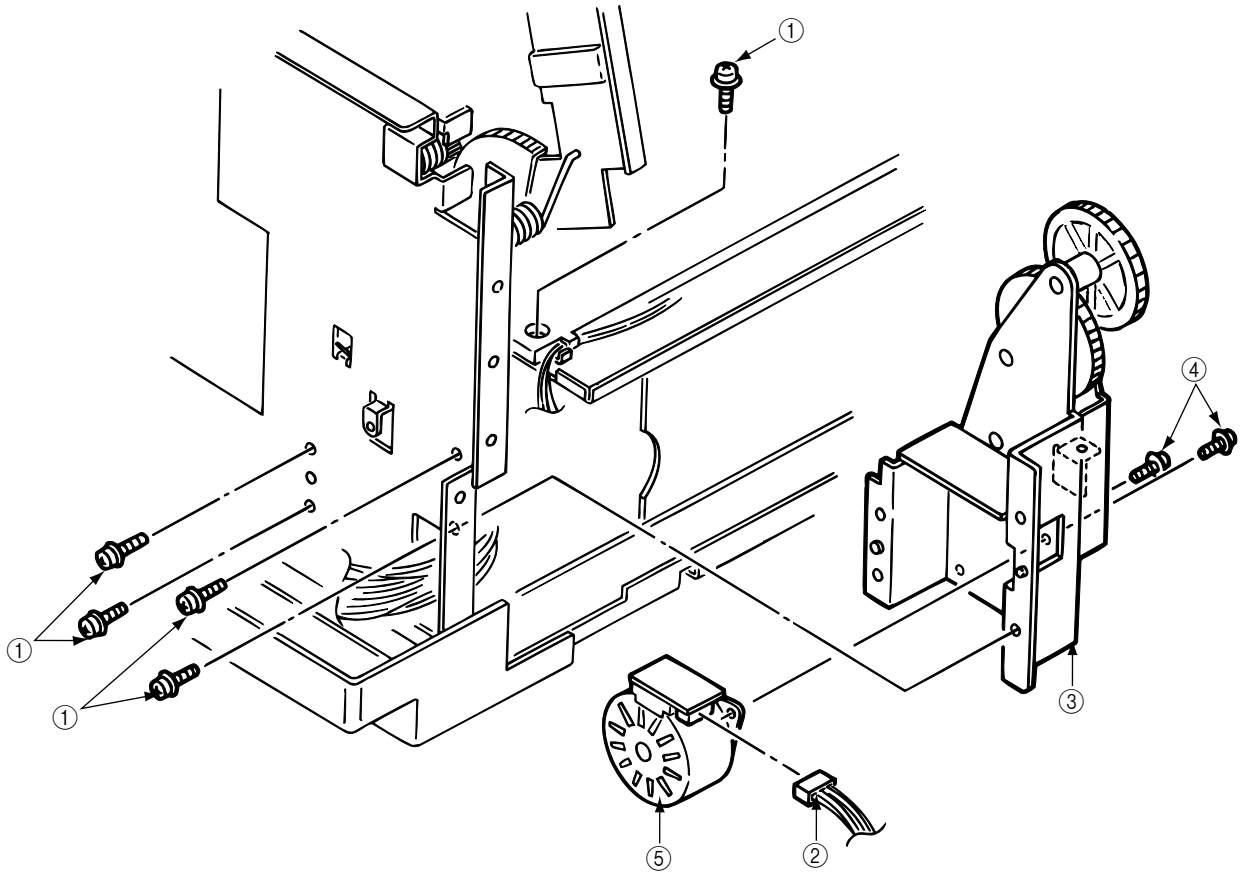


Figure 3.3.12 Gear Heat Assy

3.3.13 Main Motor (A), (B) Assy

1. Remove the PXF PCB and PX4 PCB. (See 3.3.11)
2. Unscrew 4 screws ⑧ and remove 4 plate-Earth ⑨ and 4 lever Up/Dn 2 ①.
3. Unplug all the cables ② connected and unscrew 4 screws ③, then remove the main motor (A) assy ④.
4. Unplug all the cables ⑤ connected and unscrew 3 screws ⑥, then remove the main motor (B) assy ⑦.

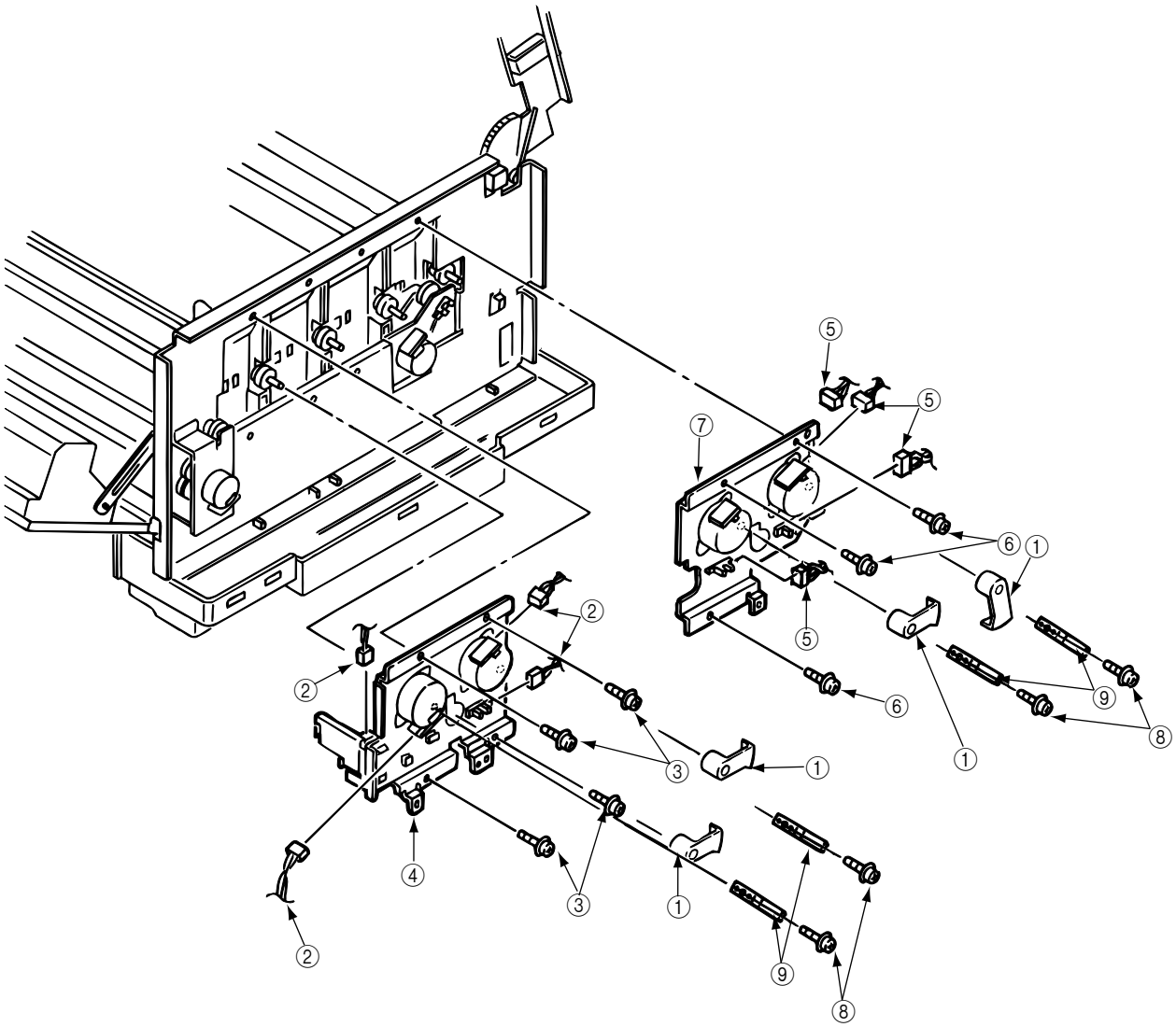


Figure 3.3.13 Main Motor (A), (B) Assy

3.3.14 Gear One-way (Z30)

Four gear one-ways (Z30) are provided but the method of those replacements is the same. Do not disassemble the gear one-ways (Z30) because they are assemblies requires adjustment.

1. Remove the PCB assy : PCM. (See 3.3.9)
2. Remove the cover CU. (See 3.3.11)
3. Remove the 4 Plate-Earth and 4 lever Up/Dn 2. (See 3.3.13)
4. Release the lock with the shaft by spreading the claw, then remove the gear one-way (Z30) ①.

[Notice for mounting]
Mount the gear one-way (Z30) by fitting it with the shaft link turned in the arrow direction.

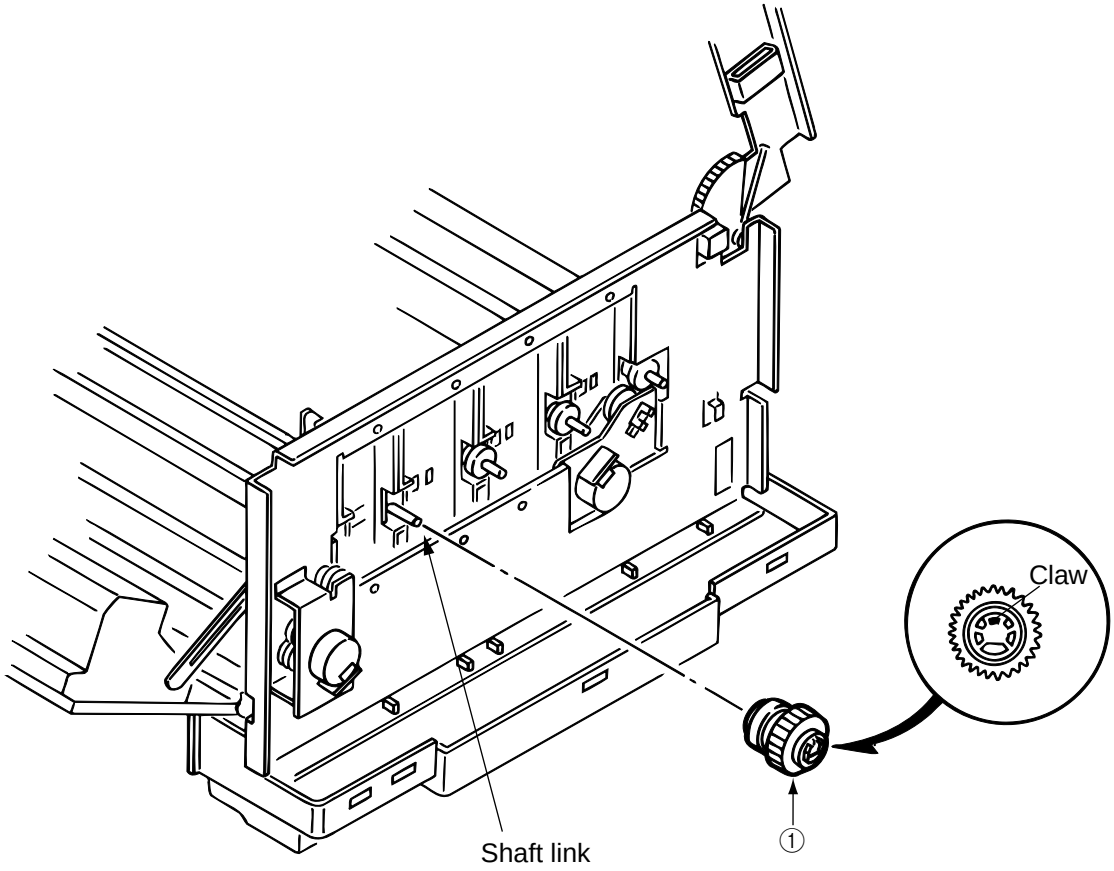


Figure 3.3.14 Gear One-way (Z30)

3.3.15 Motor Assy BT

1. Remove the main motor (B) assy. (See 3.3.13)
2. Unplug 2 cables ① connected and unscrew 2 screws ②, then remove the motor assy BT ③.

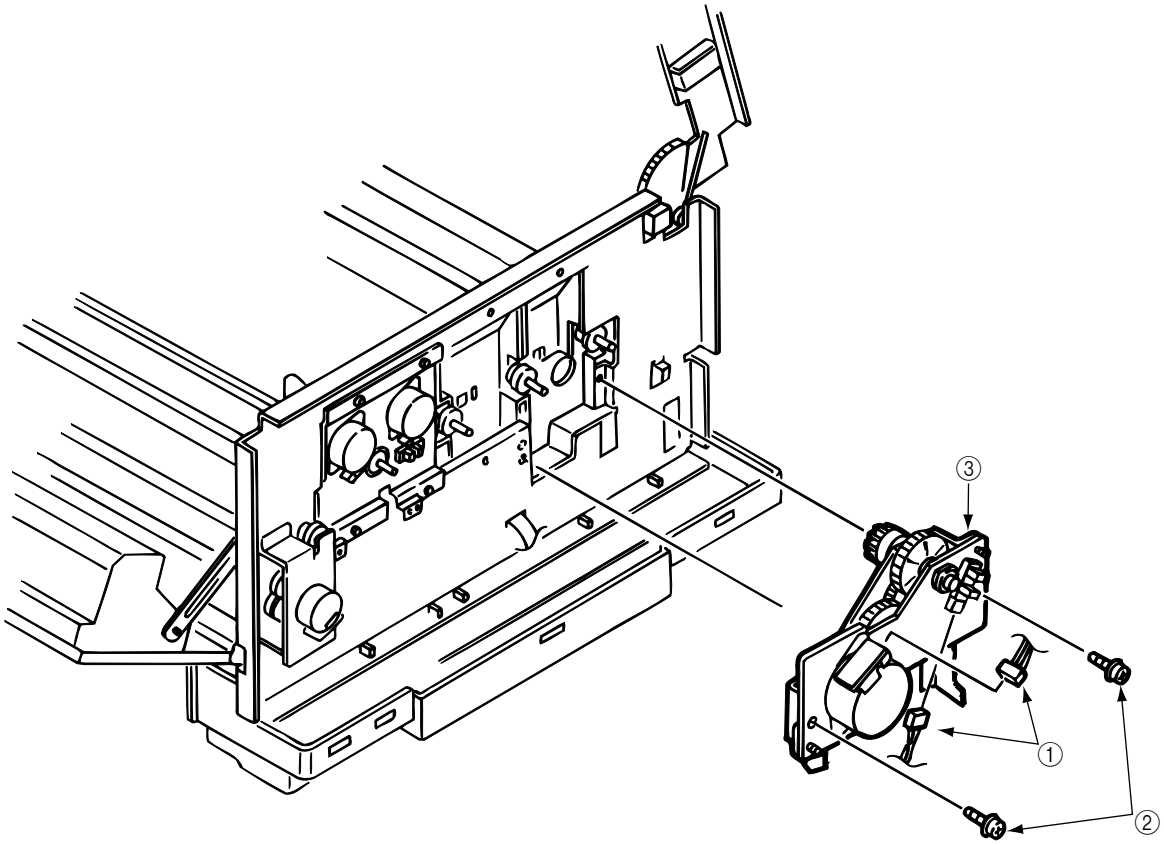


Figure 3.3.15 Motor Assy BT

3.3.16 Power Supply Unit, Holder Inlet, Sheet Insulation

1. Remove the motor-fan (80-25). (See 3.3.2)
2. Remove the frame side (L), the cover assy side (R) and the cover rear (L). (See 3.3.8)
3. Unplug the cable ①.
4. Remove the holder inlet ③ by unscrewing 2 screws ②, then remove the power switch ④ and unplug the AC socket ⑤.
5. Draw the power supply unit ⑦ by unscrewing 3 screws ⑥, then unplug the cable ⑧.

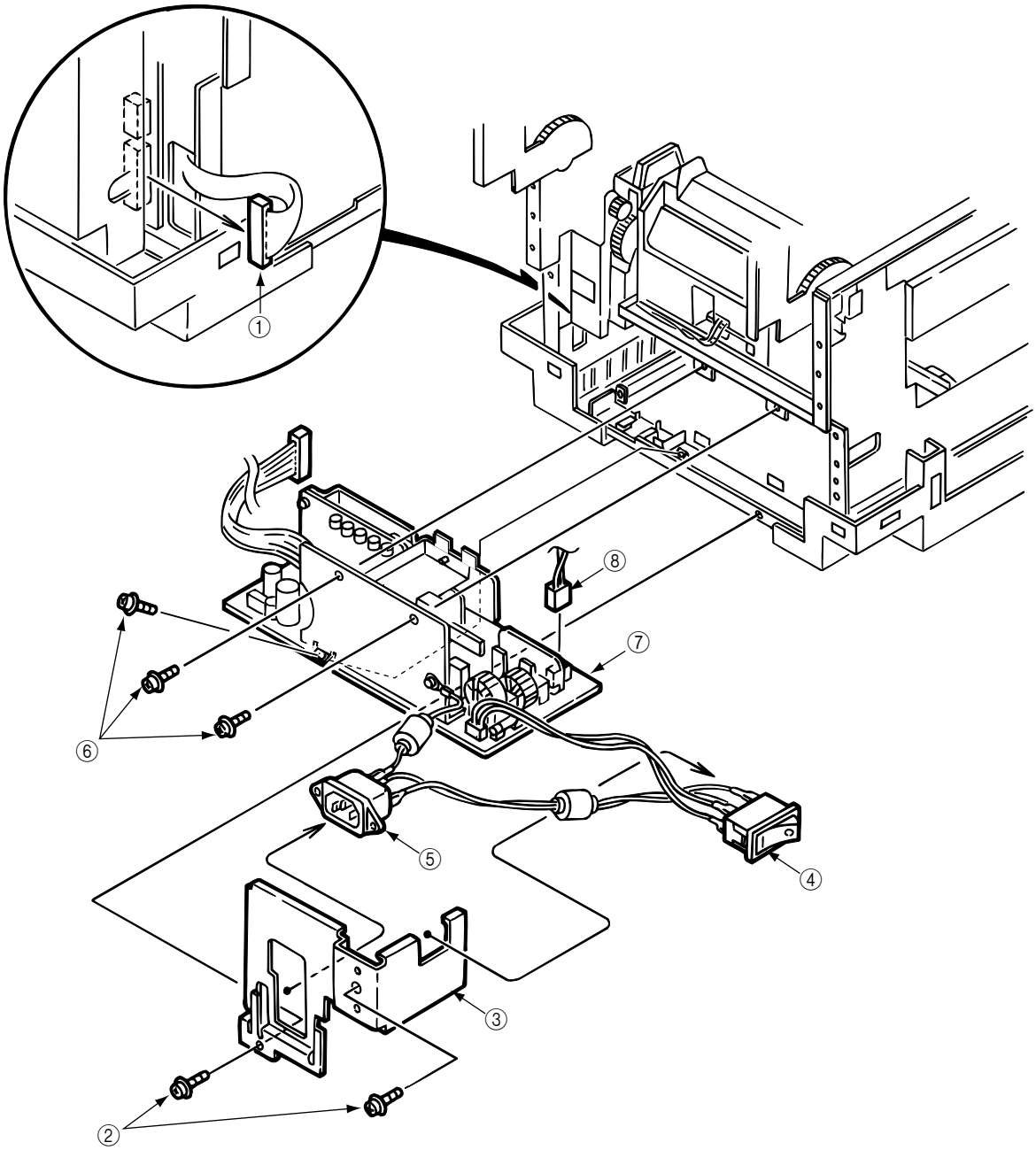


Figure 3.3.16 Power Supply Unit, Holder Inlet, Sheet Insulation

3.3.17 Sensor Assy Box Toner

1. Remove the power supply unit. (See 3.3.16)
2. Unscrew the screw ① then remove the sensor assy box toner ② together with the bracket ③.
3. Unscrew the screw ④ then remove the sensor assy box toner ②.

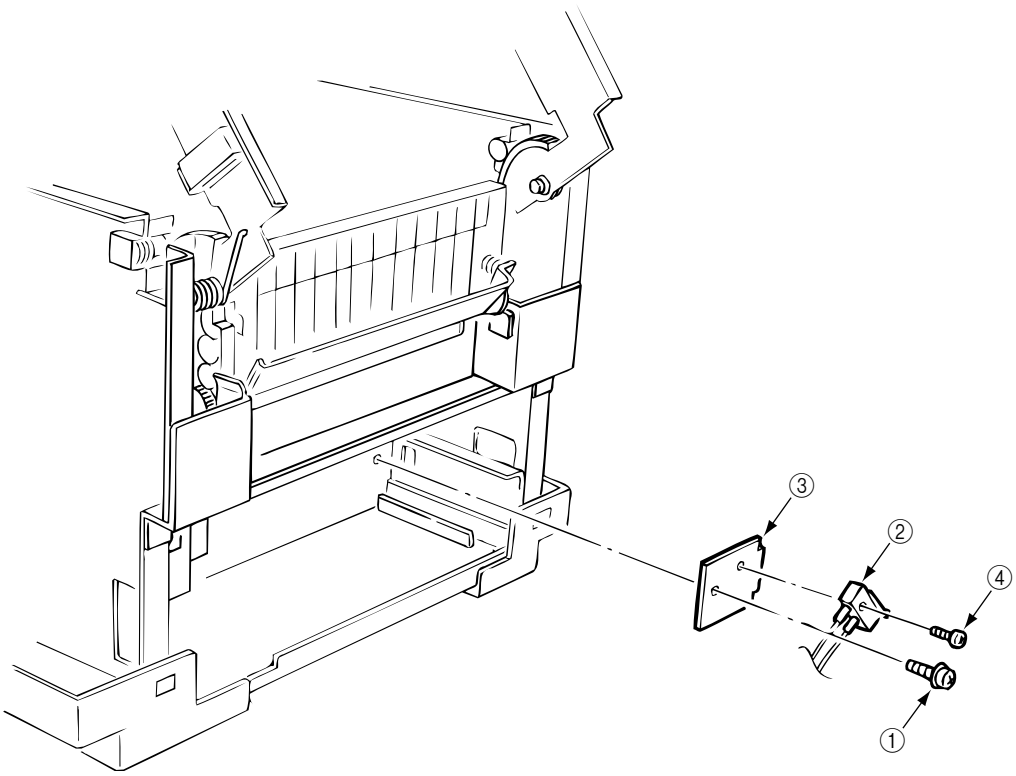


Figure 3.3.17 Sensor Assy Box Toner

3.3.18 Square-shaped Connector

Remove the heat unit assy.

1. Draw the power supply unit. (See 3.3.16) (Do not remove the power switch and AC socket from the holder inlet.)
2. Unplug the cable ①.
3. Remove cable ②, screw ⑤ bracket ⑥ and cable ⑦ in order and then take off SW from bracket ⑥ to pull off square-shaped connector ④.

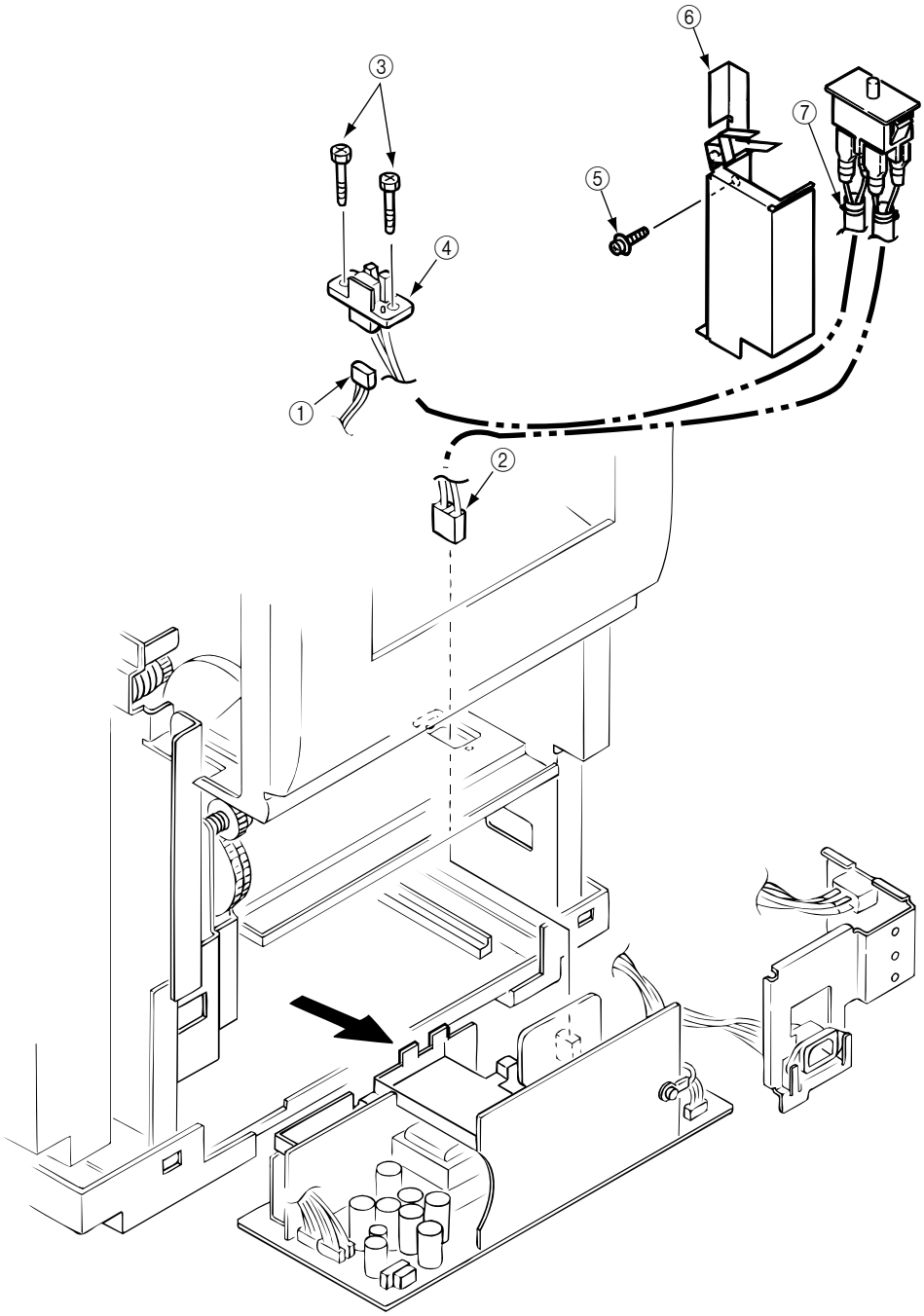


Figure 3.3.18 Square-shaped Connector

3.3.19 Hopping Motor

1. Remove the cover assy side (R), cover assy OP panel and the cover front (R). (See 3.3.8)
2. Unscrew 2 screws ① and unplug the cable ②, then remove the bracket hopping motor ③. (Be careful not to lose the gears ⑤, ⑥ and ⑦ which slip off at this time.)
3. Unscrew 2 screws ⑧ then remove the hopping motor ③.

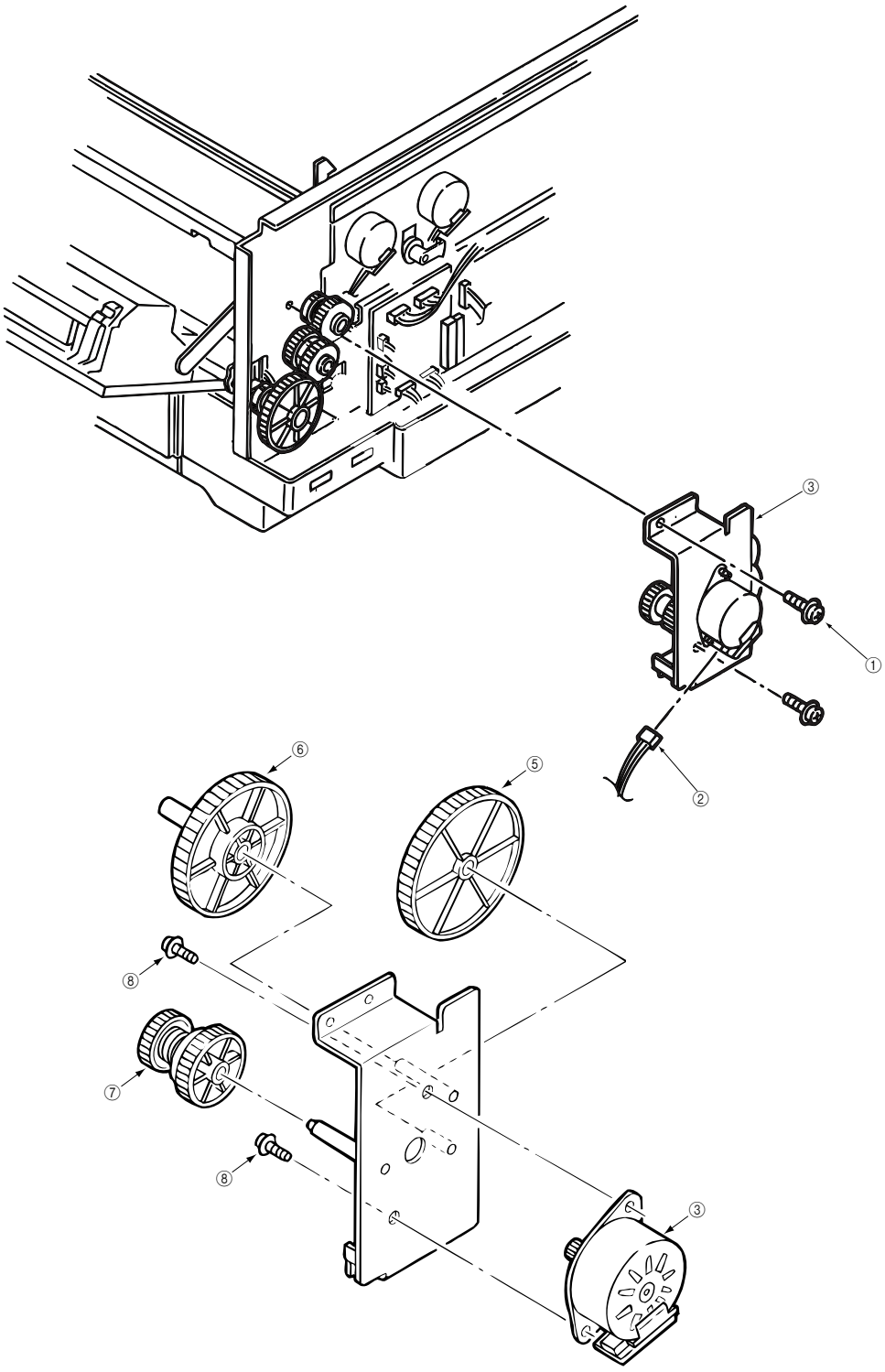


Figure 3.3.19 Hopping Motor

3.3.20 Gear One-way

1. Remove the bracket hopping motor. (See 3.3.19)
2. Remove the spacer ④ first and release the locks with the shaft by spreading the claws of the gear one-way ①, ② and ③, then remove the gear one-ways.

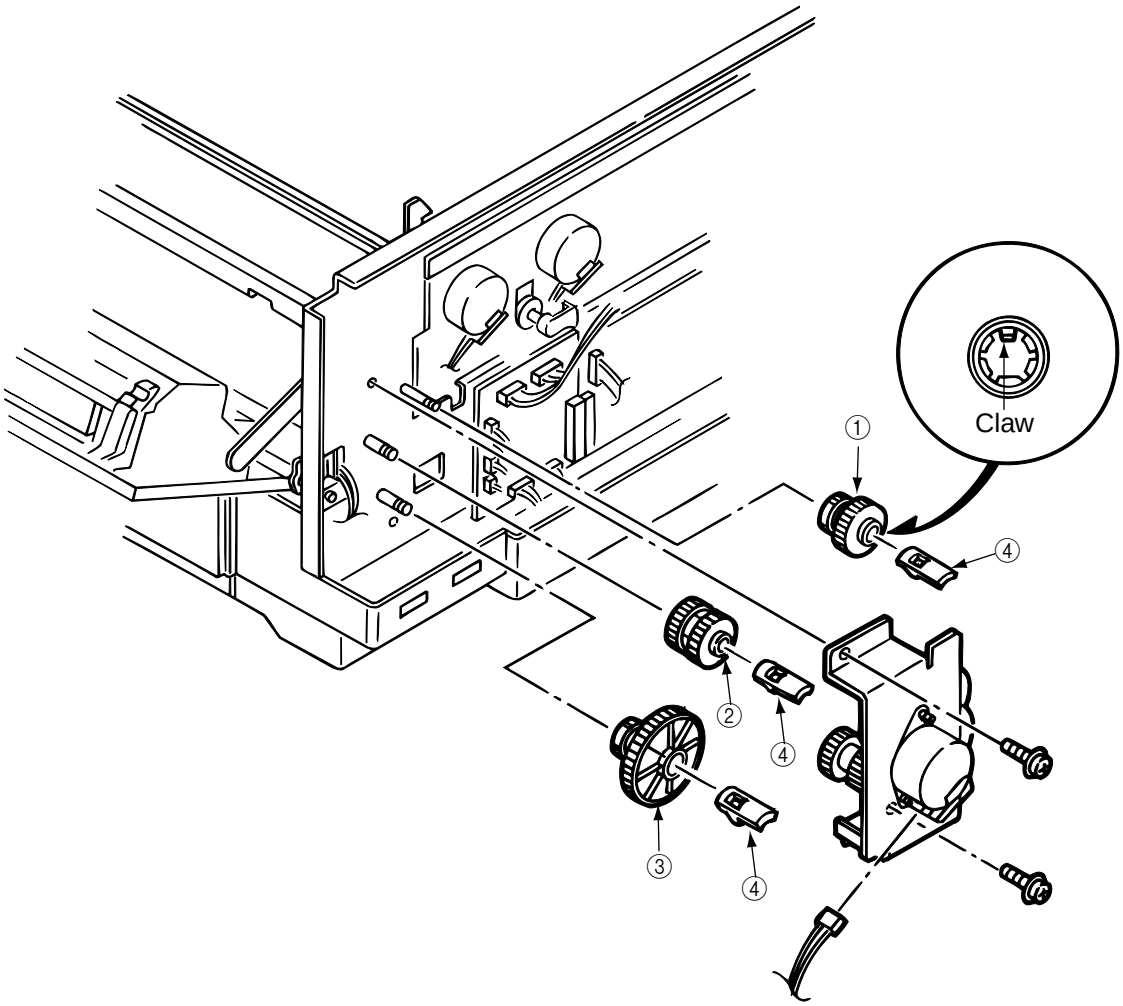


Figure 3.3.20 Gear One-way

3.3.21 Feeder Unit Front

1. Remove the cover assy side (R), cover assy OP panel, cover front (R) and the cover front (L). (See 3.3.8.)
2. Remove the cover CU. (See 3.3.11)
3. Unscrew the screw ⑧ and remove the cable ⑨.
4. Unplug the cable ① and unscrew the screw ②, then remove the bracket FF shaft ③.
5. Remove 2 E-rings ④ then remove the feeder unit front ⑤.
6. Unscrew each 2 screws ⑥ then remove 2 bracket FF links ⑦.

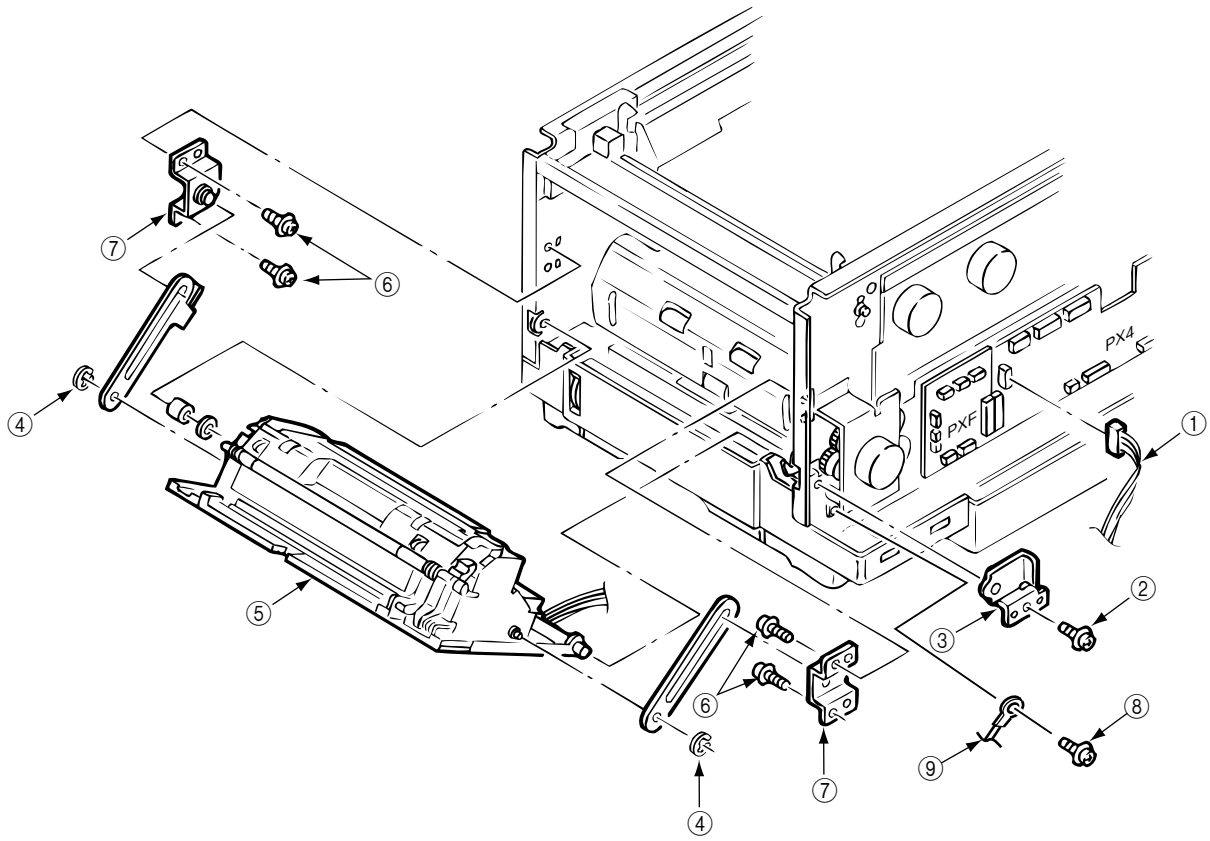


Figure 3.3.21 Feeder Unit Front

3.3.22 Manual Feed Hopper Assy

1. Open the manual feed hopper assy.
2. Release the engagement between the holder and the link then remove the manual feed hopper assy. (Be careful not to damage the holder.)

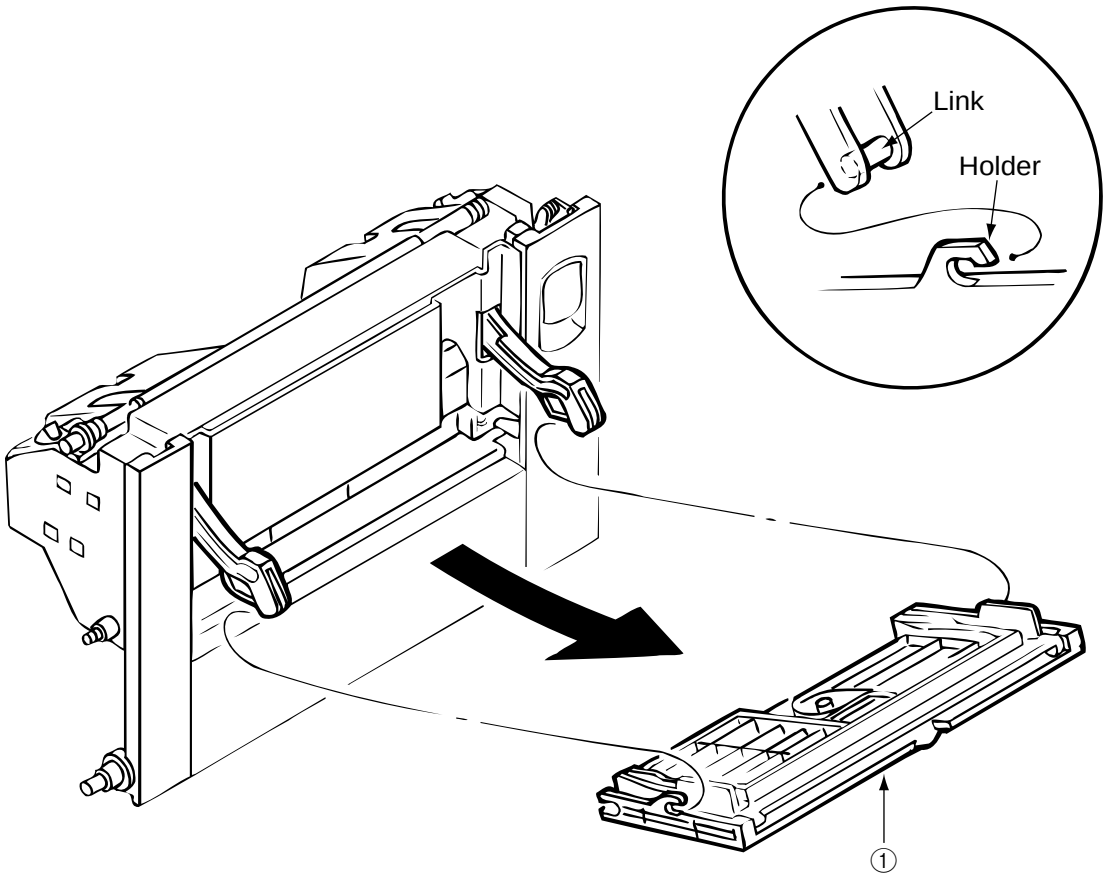


Figure 3.3.22 Manual Feed Hopper Assy

3.3.23 Guide Paper Input Assy

1. Remove the cover assy OP panel, cover front (R) and the cover front (L). (See 3.3.8)
2. Remove the feeder unit front. (See 3.3.21)
3. Unscrew 4 screws ① then draw out the guide paper input assy ② from the left side by rotating its upper part . (Be careful not to damage the lever sensor resist.)

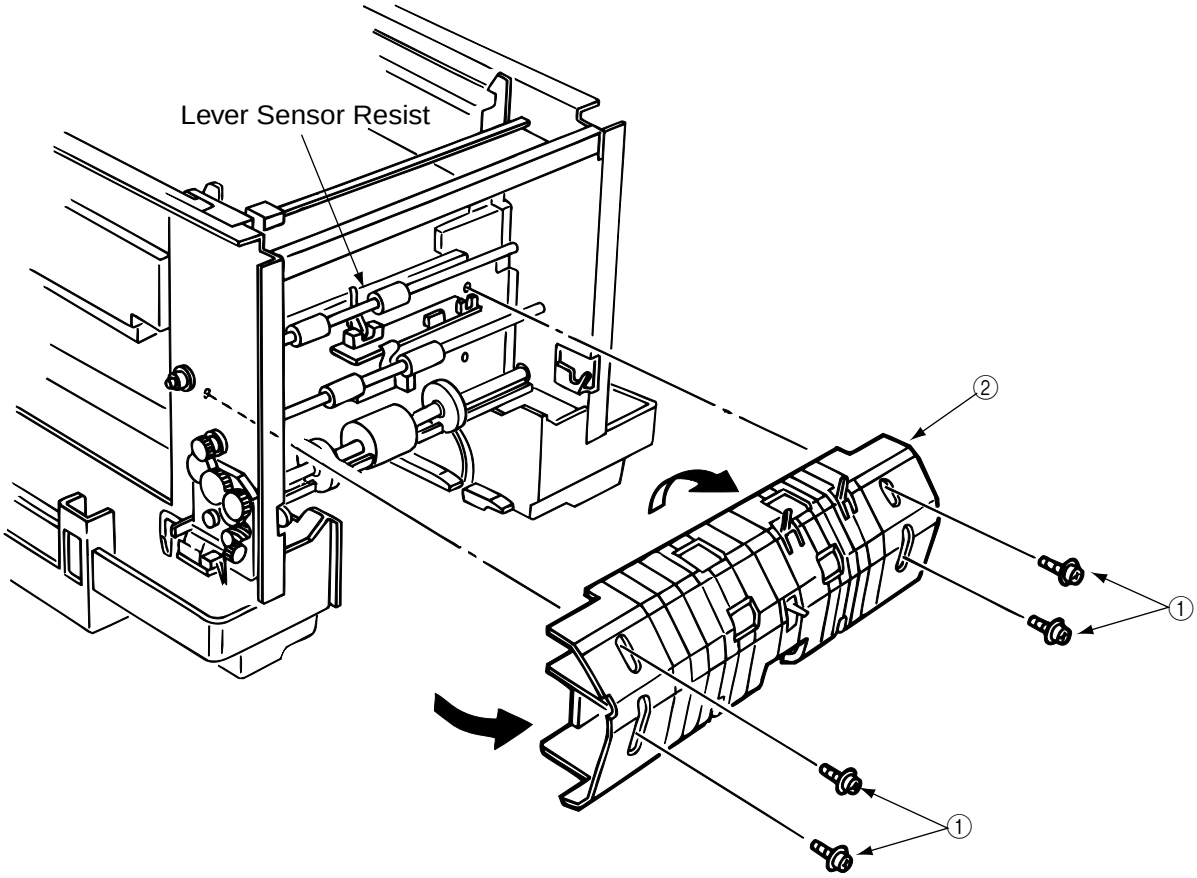


Figure 3.3.23 Guide Paper Input Assy

3.3.24 Two Lever Input Sensors, Lever 2nd Feed Sensor

1. Remove the guide paper input assy. (See 3.3.23)
2. Release the engagement with the guide by pressing 2 lever input sensors ② in the arrow direction, then remove them.
3. Release the engagement with the guide by pressing the lever 2nd feed sensor ② in the arrow direction, then remove the sensor.

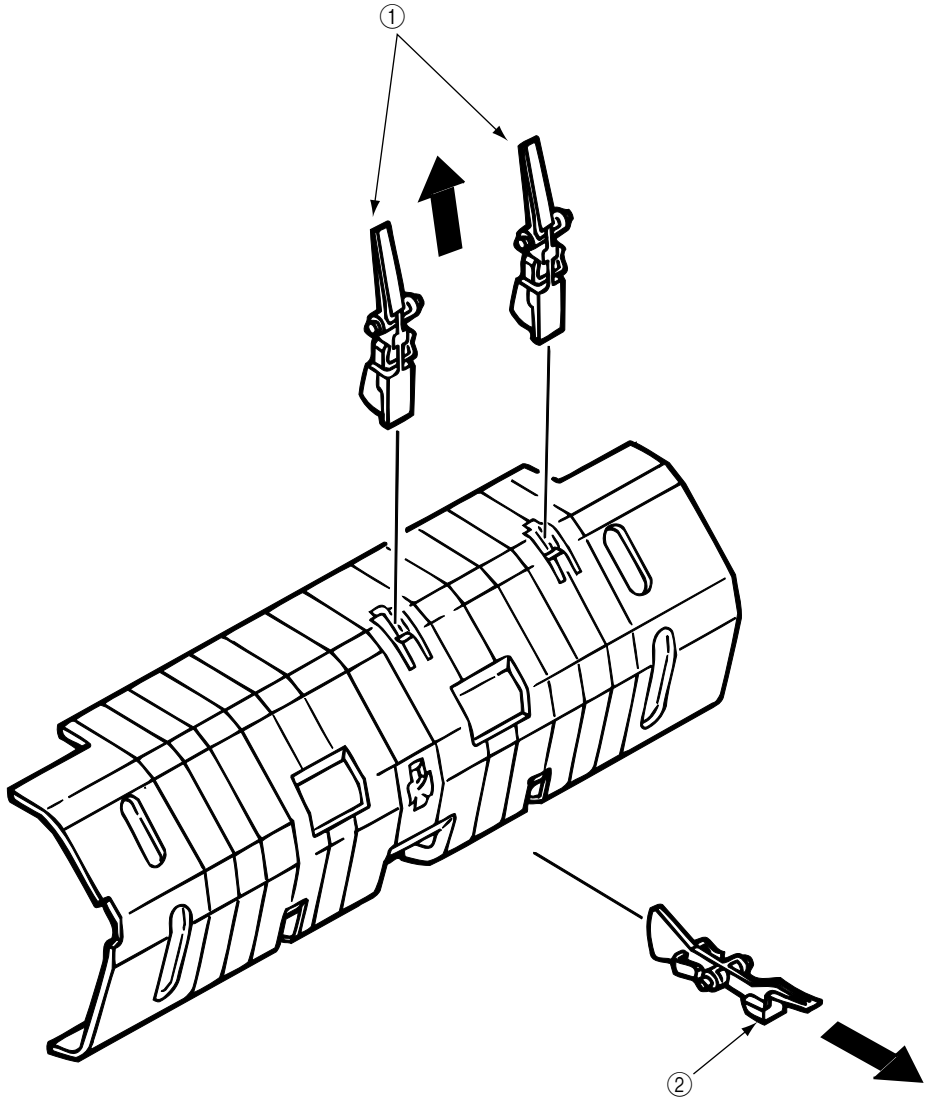


Figure 3.3.24 Two Lever Input Sensors, Lever 2nd Feed Sensor

3.3.25 Roller Registration, Roller Assy Hopping

1. Remove the guide paper input assy. (See 3.3.23)
2. Remove the bracket hopping motor. (See 3.3.19)
3. Remove the gear one-way. (See 3.3.20)
4. Remove the holder gear toner assy. (See 3.3.30)

[Removal of the roller registration]

5. Remove the gear ① and 2 bushes ② and 2 bearings ③, then 2 roller registrations ④.

[Removal of the roller assy hopping]

6. Remove the bush ⑤ and the bearing ⑥.
7. Remove E-rings ⑨ of the sub-roller hopping at both sides of hopping roller and then release the lock of the roller hopping ⑦ with the shaft ⑧ by spreading the claw, then remove the roller hopping from the left side by sliding the shaft ⑧ in the arrow direction. (Be careful not to lose the knock-pin for fastening the roller hopping ⑦, which slips off together.)

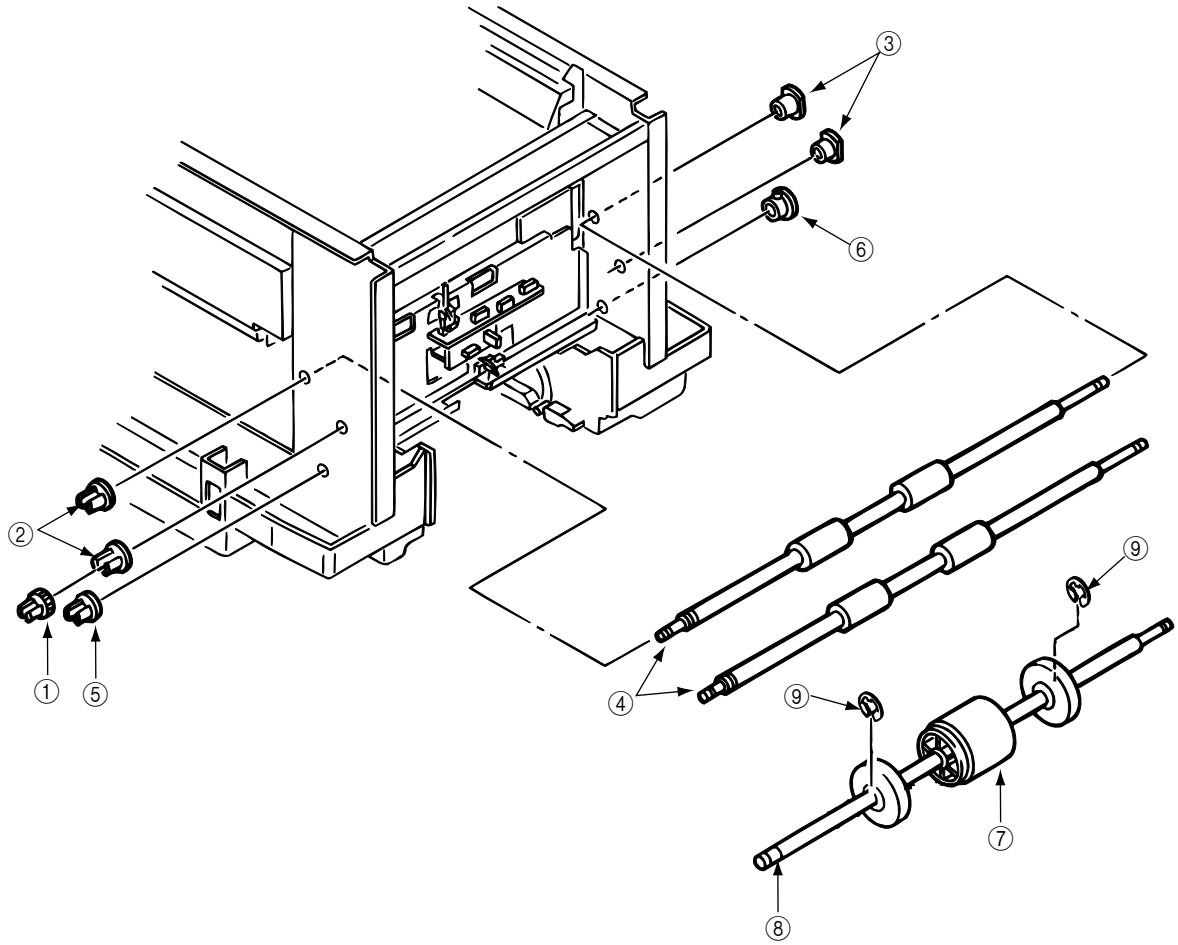


Figure 3.3.25 Roller Registration, Roller Assy Hopping

3.3.26 Roller Hopping

1. Remove the roller assy hopping. (See 3.3.25) and remove the 2 sub-roller hopping guide ③ . (Be careful not to lose the knock-pin which slips off together when removing the roller assy hopping.)
2. Detach the roller hopping ② from the shaft ①.

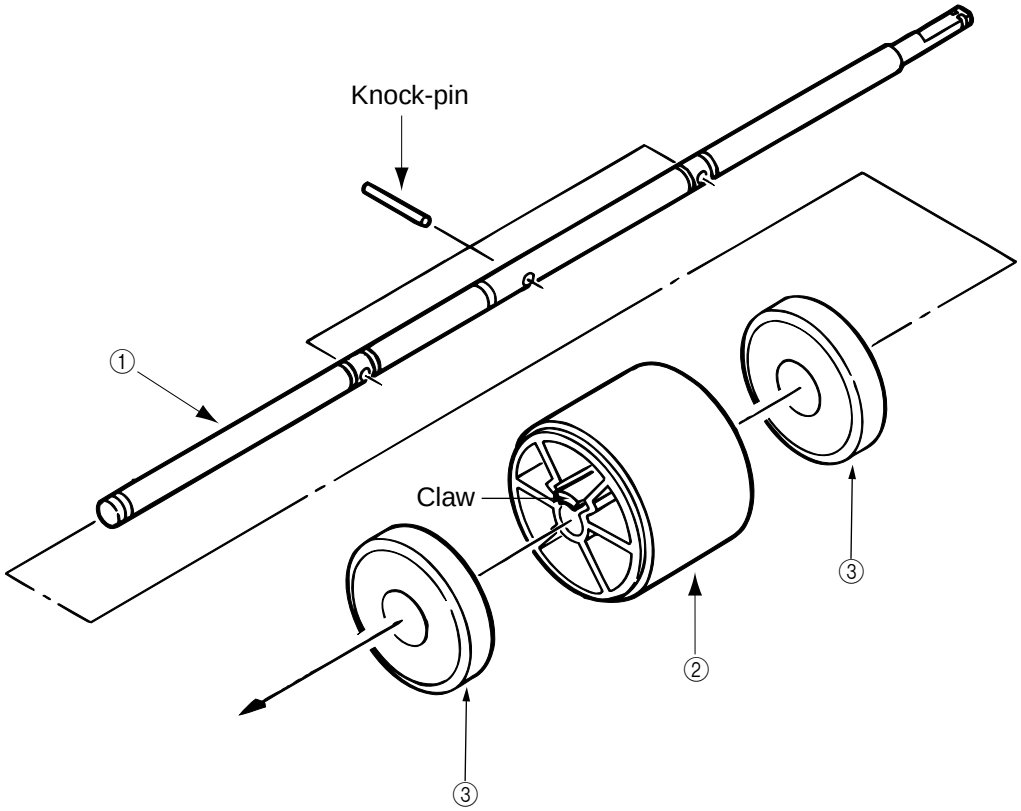


Figure 3.3.26 Roller Hopping

3.3.27 PXU PCB/PXM PCB, Lever Resist Sensor

Since the PXU PCB and PXM PCB are connected with each other via the cable, remove them at the same time.

1. Remove the guide paper input assy. (See 3.3.23)
2. Unscrew 4 screws ① and unplug the cable ②, then remove the PXU PCB ③ and PXM PCB ④ at the same time.
3. Remove the lever resist sensor ⑤ by releasing the engagement with the guide.

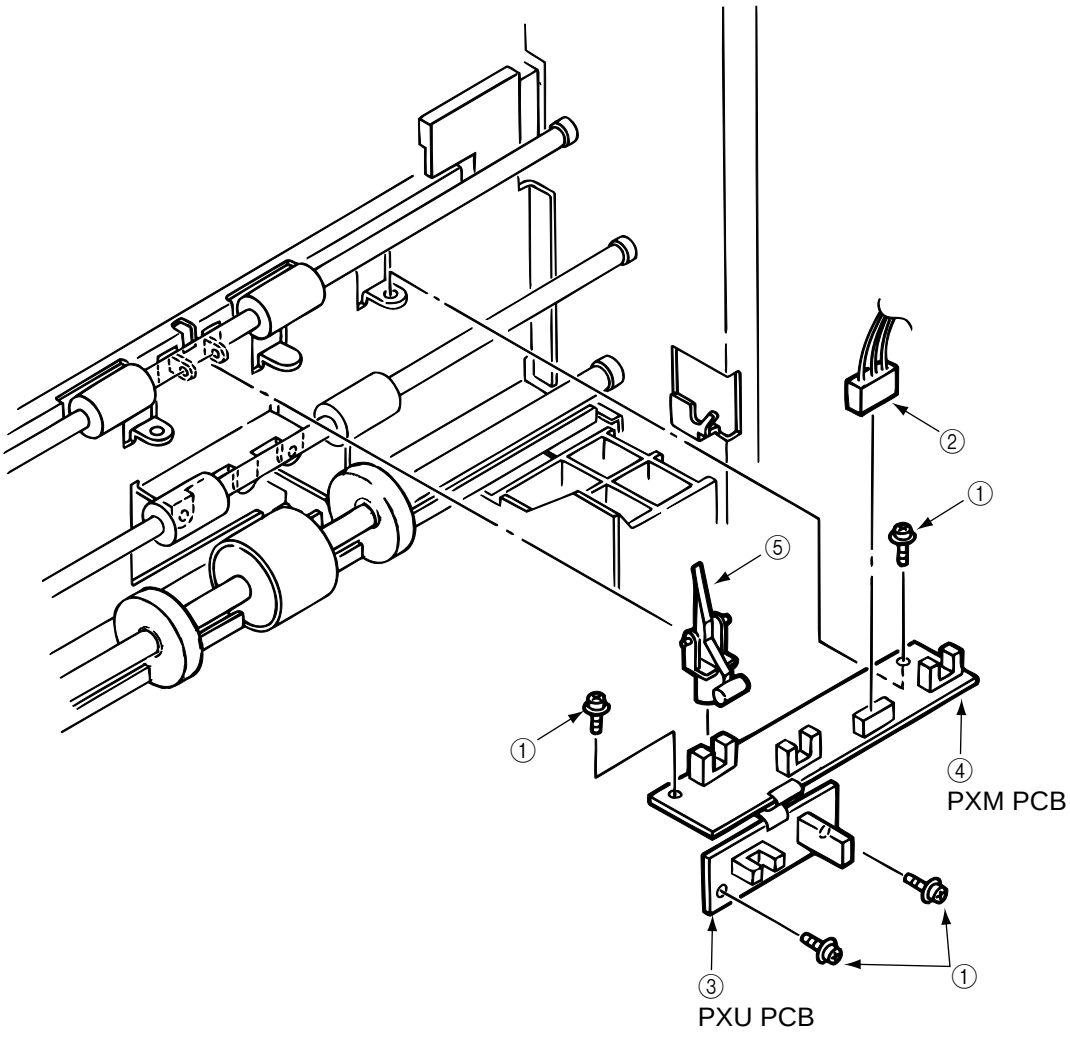


Figure 3.3.27 PXU PCB/PXM PCB, Lever Resist Sensor

3.3.28 Paper End Lever

1. Remove the guide paper input assy. (See 3.3.23)
2. Remove the paper end lever ① by releasing the engagement with the guide.

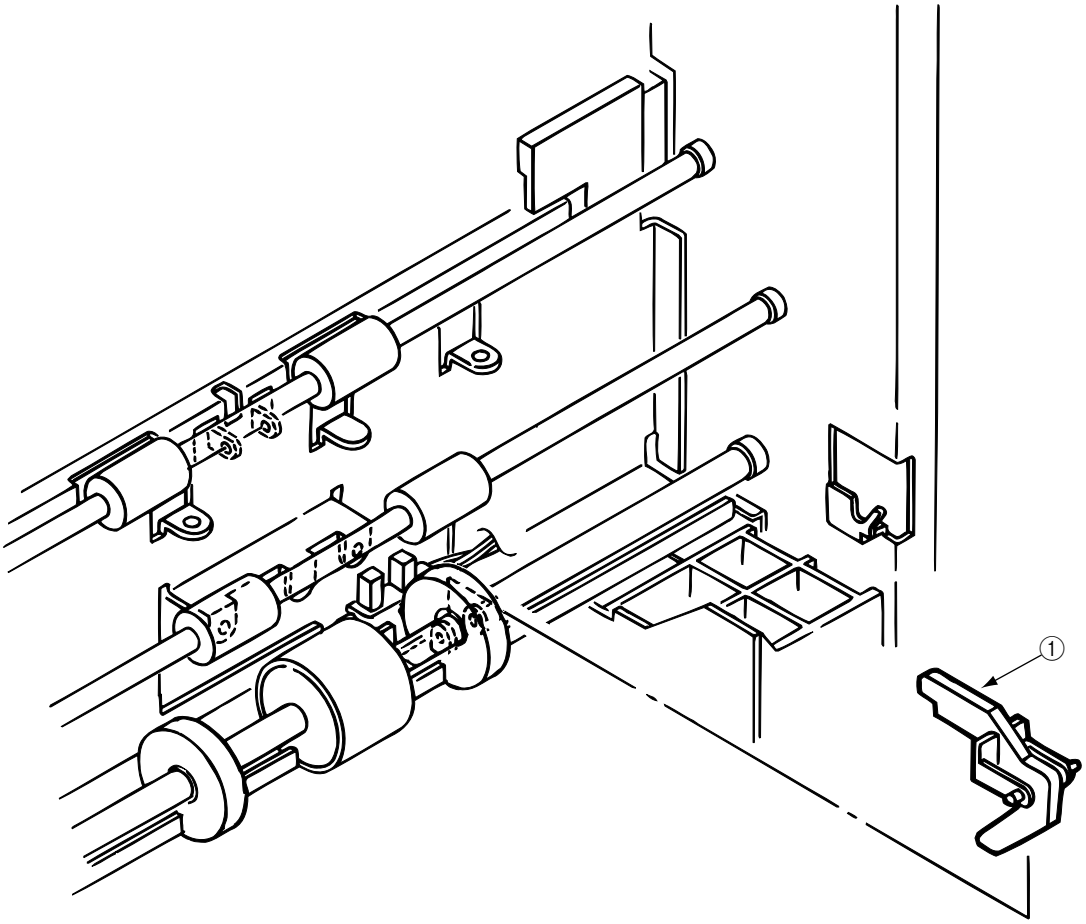


Figure 3.3.28 Paper End Lever

3.3.29 PCO PCB (Operator Panel)

1. Remove the cover assy side (R) and the cover assy OP panel. (See 3.3.8)
2. Unscrew 4 screws ① and unplug the operator panel cable ②.
6. Remove the PCO PCB ③ by releasing 6 claws.
   (Be careful not to drop the LCD (Liquid Crystal Display) ④ and ⑤ which are detached together.)

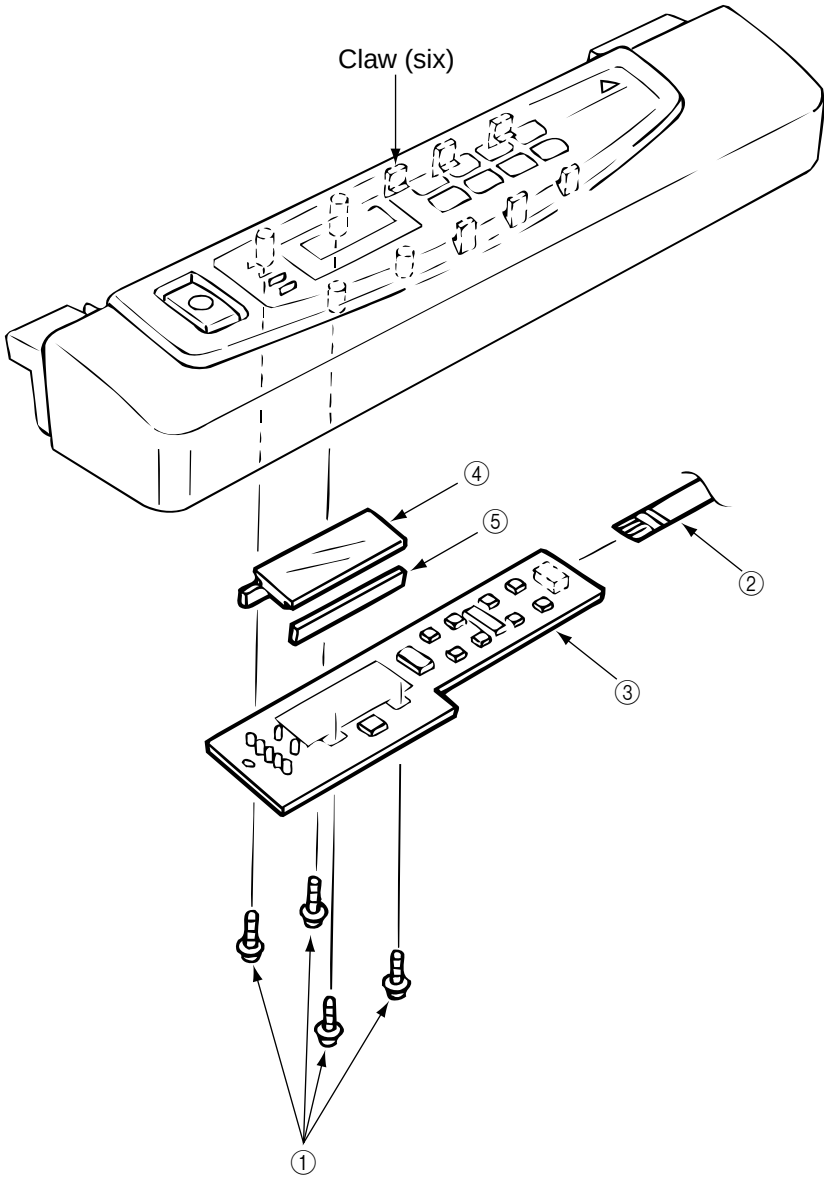


Figure 3.3.29 PCO PCB (Operator Panel)

3.3.30 Holder Gear Toner Assy

1. Remove the cover assy side (R), cover assy OP panel, cover front (R) and the cover rear (L). (See 3.3.8)
2. Unplug the cable ① and unscrew the screw ②, then remove the holder gear toner assy ③.

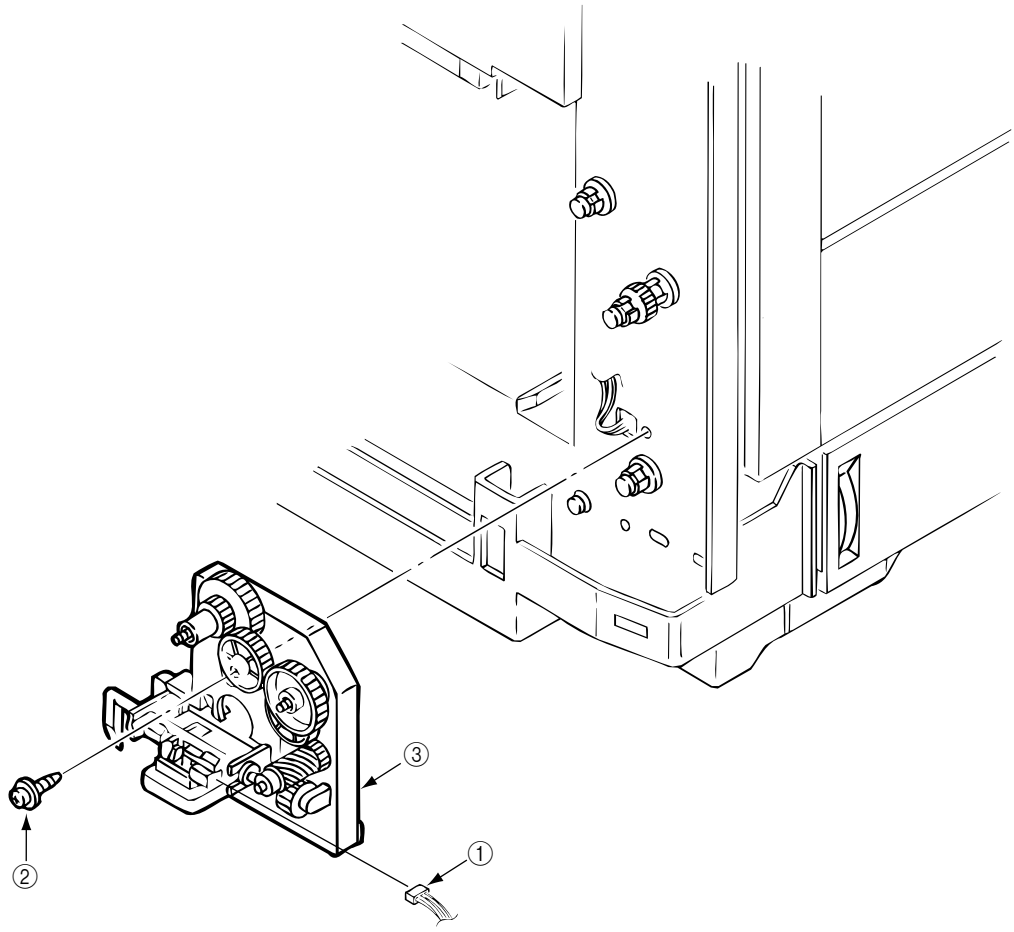


Figure 3.3.30 Holder Gear Toner Assy

3.3.31 Plate Latch Lever (FD), Spring Latch Lever (FD)

Remove the belt cassette assy.

1. Remove the cover assy side (R), cover assy OP panel, cover front (R) and the cover front (L). (See 3.3.8)
2. Open the cover CU. (See 3.3.11)
3. Unplug the cable ①.
4. Unscrew 4 screws ④ then remove the stay upper (front) ⑤.
5. Unscrew 2 screws ② then remove the bracket SW (side) ③.
6. Remove the plate latch lever (FD) ⑥ and spring latch lever (FD) ⑦ with the side frames spread. (Be careful not to spread the frames too much.)

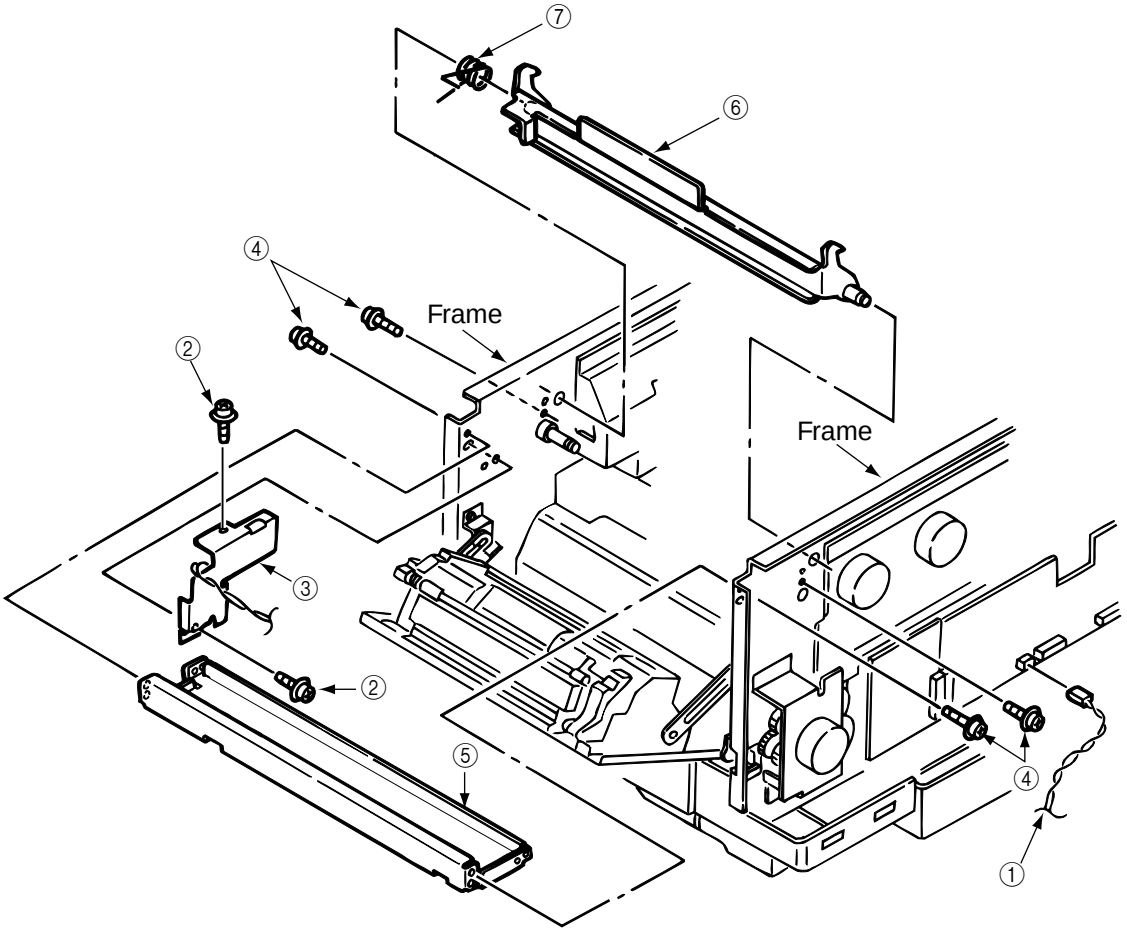


Figure 3.3.31 Plate Latch Lever (FD), Spring Latch Lever (FD)

3.3.32 Belt Cassette Assy

1. Open the Top cover.
2. Release the lock by drawing the cover knob then open the cover assy side (L).
3. Turn the waste toner box (box toner assy) ① to the left by pressing it down, then remove it.
4. Draw out the belt cassette assy ② by lifting it a little bit with its handle.

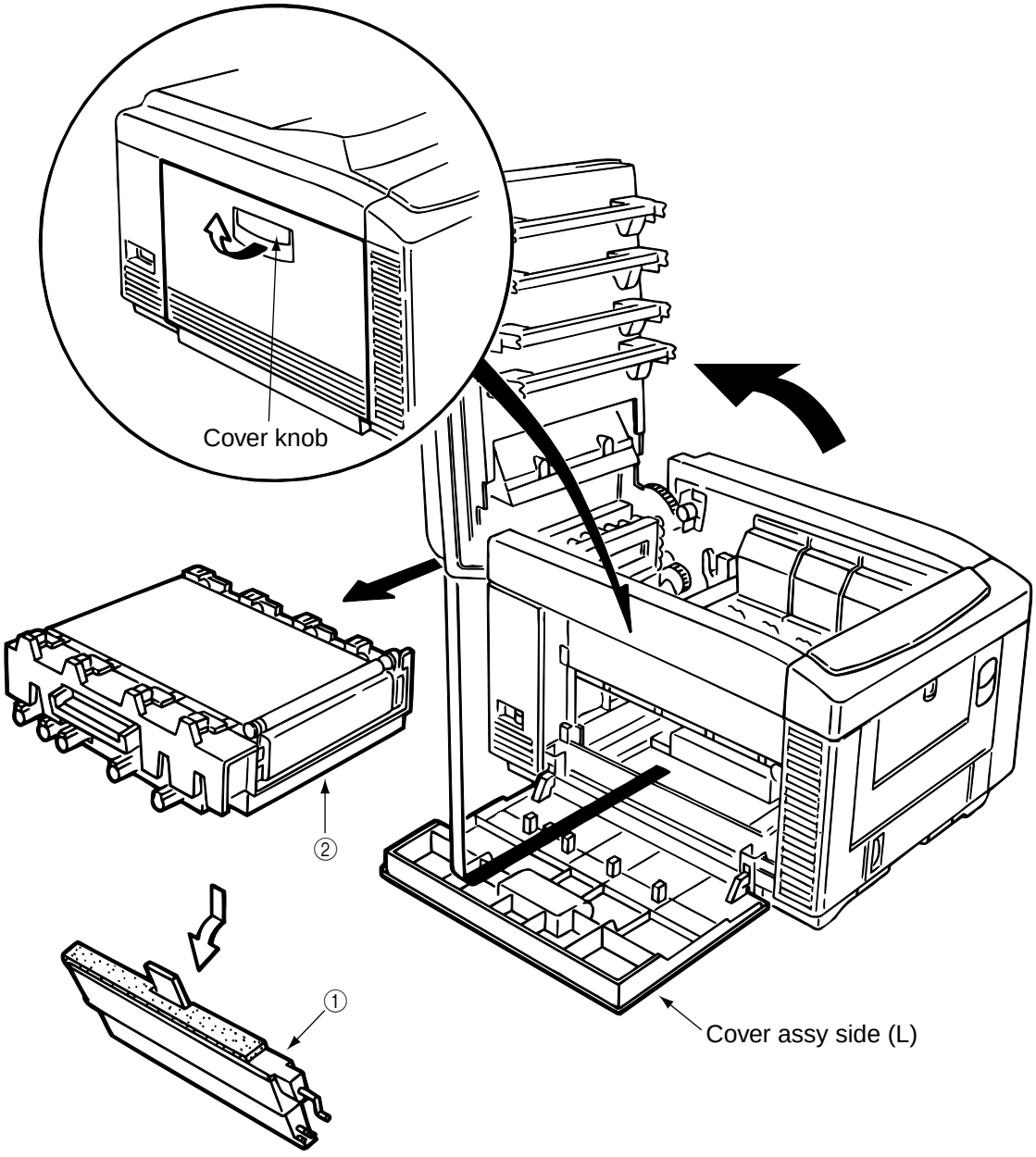


Figure 3.3.32 Belt Cassette Assy

3.3.33 High Voltage Power Supply Unit, Bracket HV (BT) Assy

1. Remove the belt cassette assy. (See 3.3.32)
2. Unscrew 2 screws ① with the stacker cover opened, then remove the plate HV ②.
3. Unplug the cable ③ and 7 codes ④.
4. Unscrew 2 screws ⑤ then remove the high voltage power supply unit ⑥.
5. Remove the bracket HV (BT) assy ⑦.

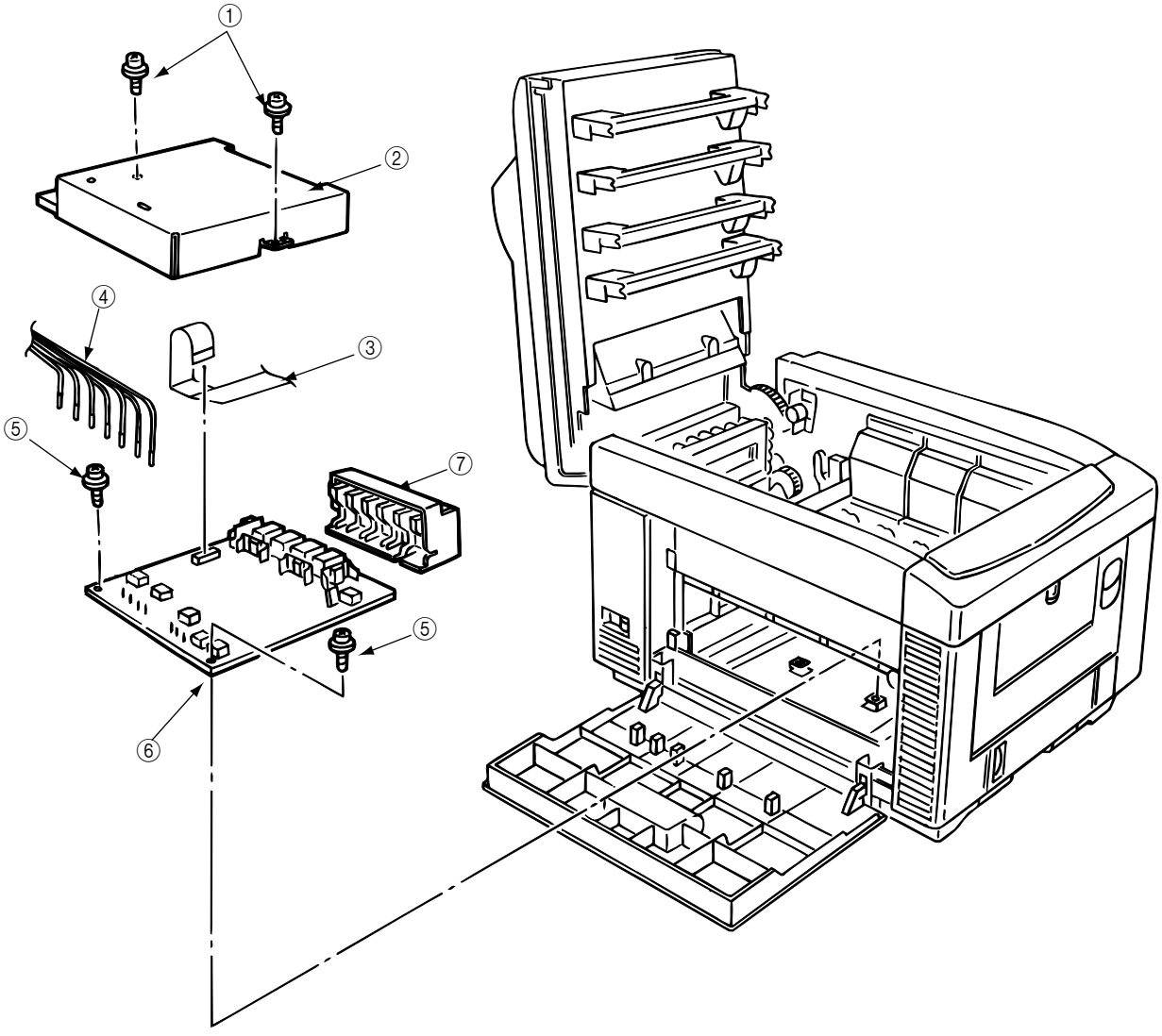


Figure 3.3.33 High Voltage Power Supply Unit, Bracket HV (BT) Assy

3.3.34 Eraser Bracket Assy, Eraser Bracket (KCM) Assy

1. Remove the belt cassette assy. (See 3.3.32.)
2. Open the stacker cover.
3. Remove four screws ⑤ and then remove the Plate Blind ⑥.

[Removing the eraser bracket assy]

4. Remove the screw ① and the connector ②.
5. Release the screw ⑦ and then remove the eraser bracket assy ③

[Removing the eraser bracket (KCM) assy]

5. Remove the screw ① and the connector ②.
6. Release the lock of the claw then release the engagement with the bracket sensor T (KCM) (See 3.3.35 2.)
7. Release the screw ⑦ and then remove the eraser bracket (KCM) assy ④ and unplug the cable ② then remove the eraser bracket (KCM) assy.

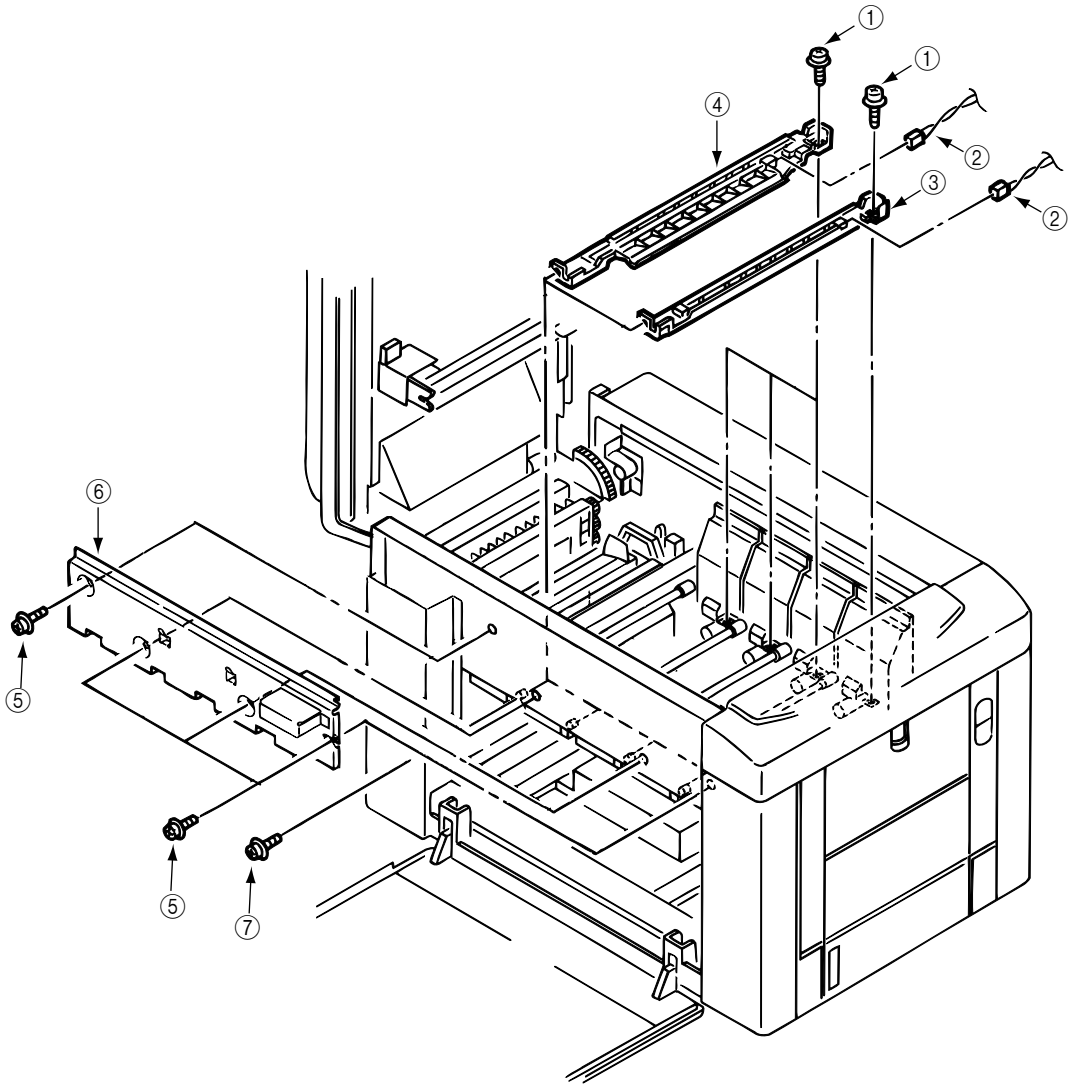


Figure 3.3.34 Eraser Bracket Assy, Eraser Bracket (KCM) Assy

3.3.35 Shaft Link

1. Remove the eraser bracket assy. (See 3.3.34.)
2. Remove the gear one-way (Z30). (See 3.3.14.)
3. Remove the E-ring ③ by sliding the sensor assy T (KCM) ① and bracket sensor T (KCM) ② together in the arrow (A) direction. When removing shaft (K) assy, remove 3 screws then remove the Heat Sink-801 ⑫. Release the lock of the claw then remove the plate shield Heat ⑬ by sliding .
4. Release the engagement between the lever Up/Dn and boss A of the lever link (R) ⑤ by sliding the spring support (R) ④, lever link (R) ⑤ and the bearing ⑥ together in the arrow (B) direction.
   (Keep on sliding until the lever link (R) ⑤ reaches the end of D-cut part of the shaft link ⑦.)
5. Draw out the entire shaft link ⑦ by pressing it in the arrow (C) direction and turning its left side under the contact (BL L) assy.
6. Detach the sensor assy T (KCM) ①, bracket sensor T (KCM) ②, spring support (R) ④, lever link (R) ⑤ and the bearing ⑥ from the shaft link ⑦.
7. Remove 2 E-rings ⑧ then remove the spring support (L) ⑨ and lever link (L) ⑩.

[Notice for mounting]

- Engagement between the lever Up/Dn and boss A of the lever link (R) ⑤:
  Mount the spring support (L) ⑨ and lever link (L) ⑩ in the predetermined positions, then clamp the boss A of lever link (R) ⑤ with the lever Up/Dn by adding rotating power on the spring support (L) ⑨ by rotating the shaft link ⑦.
- Mounting of the spring support (R) ④:
  Clamp the spring support (R) ④ at the predetermined positions in the lever link (R) ⑤ and the contact BKT (R).

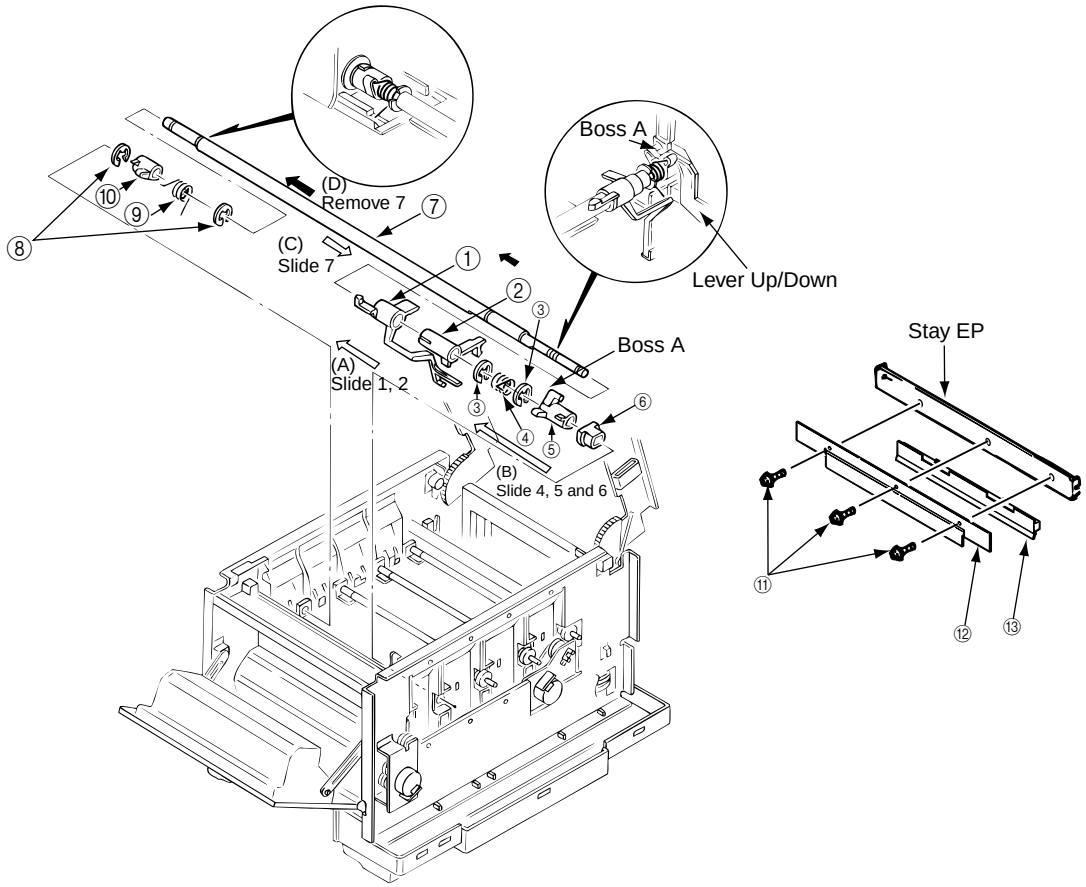


Figure 3.3.35 Shaft Link

3.3.36 Contact (BL-R) Assy, Contact (CL-R) Assy

1. Remove the gear one-way (Z30). (See 3.3.14)
2. Remove the motor assy BT. (See 3.3.15)
3. Remove the high voltage power supply unit. (See 3.3.33)
4. Remove the shaft link. (See 3.3.35)

[Removal of the contact (BL-R) assy]

5. Unscrew 2 screws ① and unplug the cable ②, then remove the contact (BL-R) assy ③.

[Removal of the contact (CL-R) assy]

6. Unscrew 2 screws ④ then remove the contact (CL-R) assy ⑤.

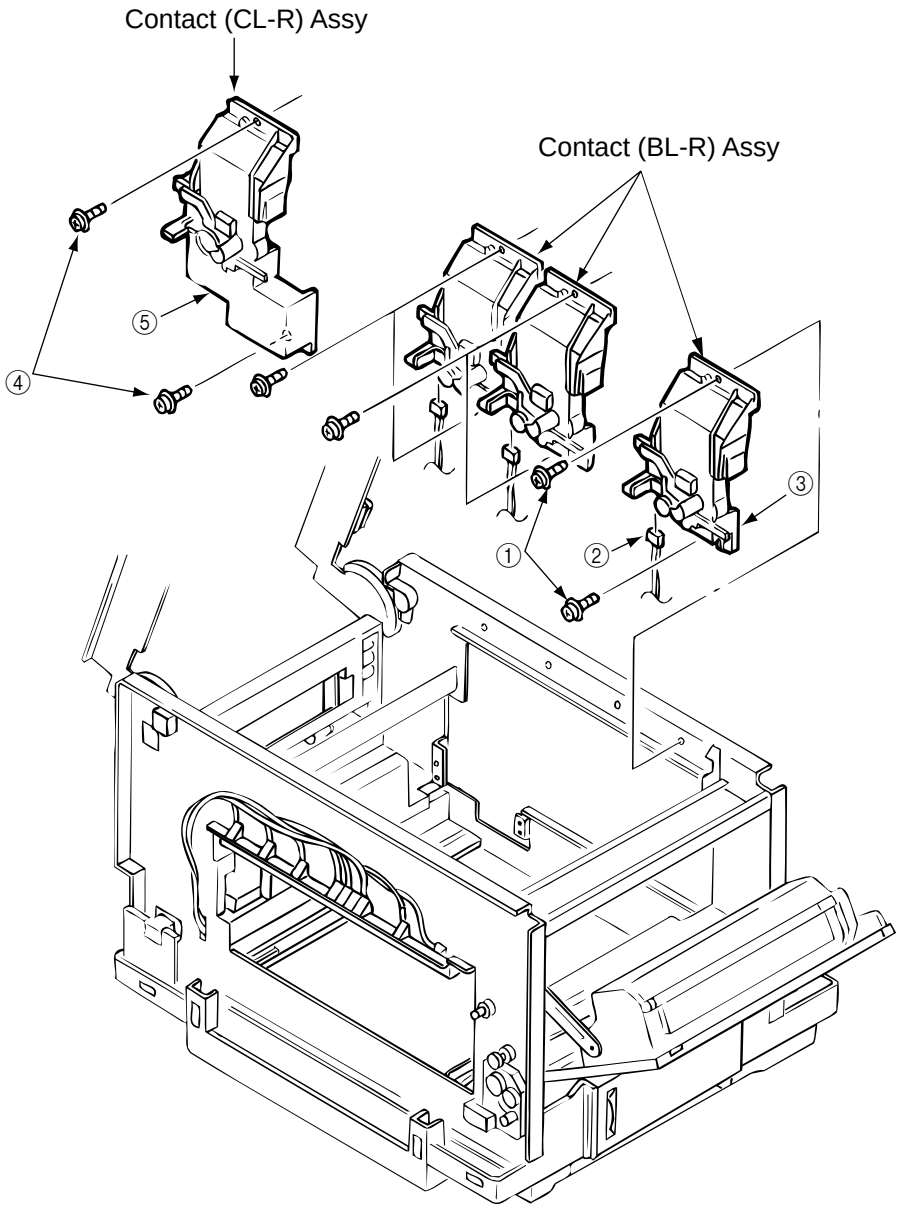


Figure 3.3.36 Contact (BL-R) Assy, Contact (CL-R) Assy

3.3.37 Contact (BL-L) Assy, Contact (CL-L) Assy

1. Remove the shaft link. (See 3.3.35)

[Removal of the contact (BL-L) assy]
2. Unscrew 2 screws ① then remove the contact (BL-L) assy ②.

[Removal of the contact (CL-L) assy]
3. Unscrew 2 screws ③ then remove the contact (CL-L) assy ④.

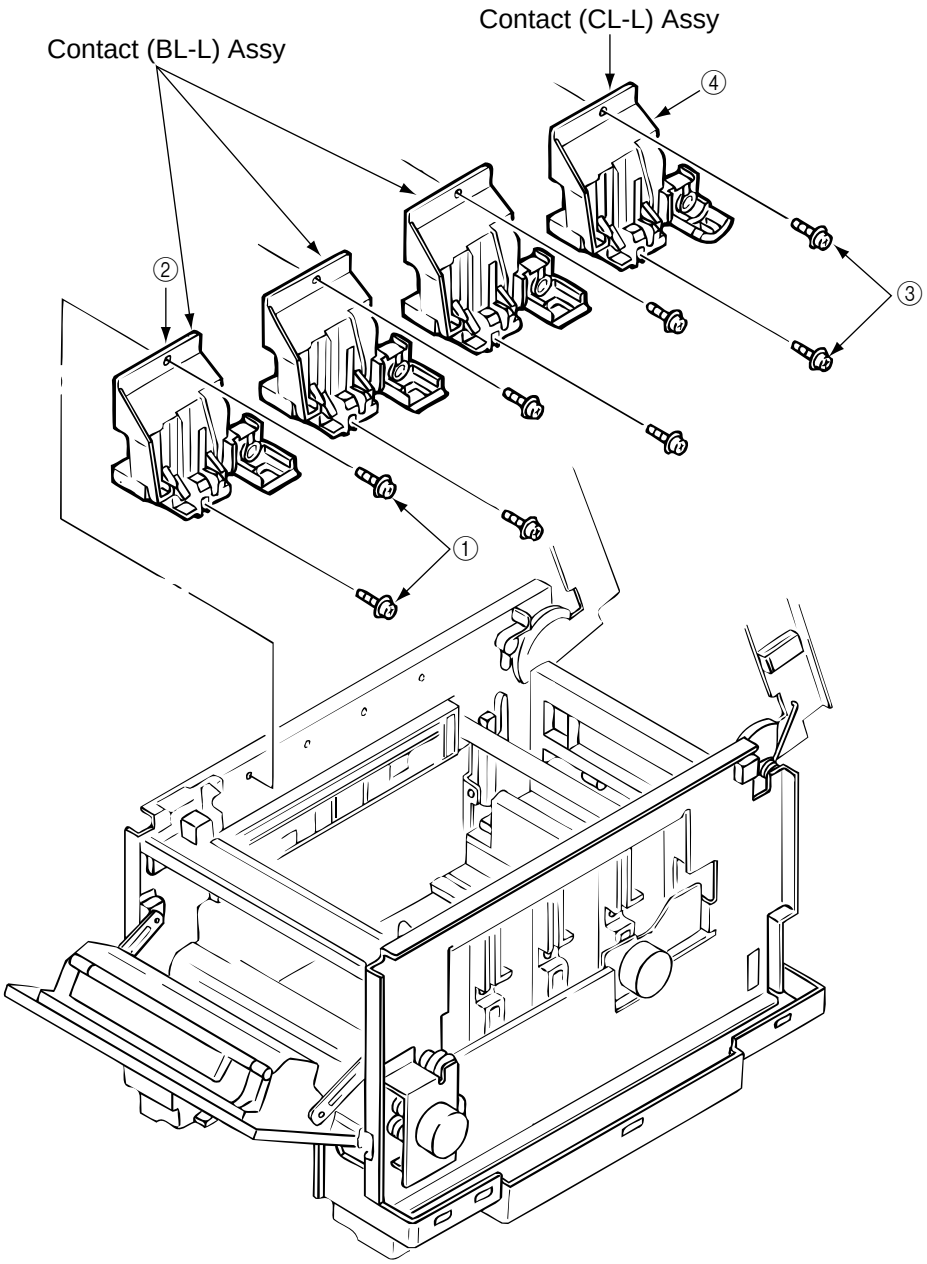


Figure 3.3.37 Contact (BL-L) Assy, Contact (CL-L) Assy

3.3.38 Contact SB Assy

1. Remove the contact (BL-L) assy and contact (CL-L) assy. (See 3.3.37)
2. Unscrew 3 screws ① then remove the plate blink ②.
3. Unplug 7 codes ③.
4. Unscrew 3 screws ④ then remove the contact SB assy ⑤.

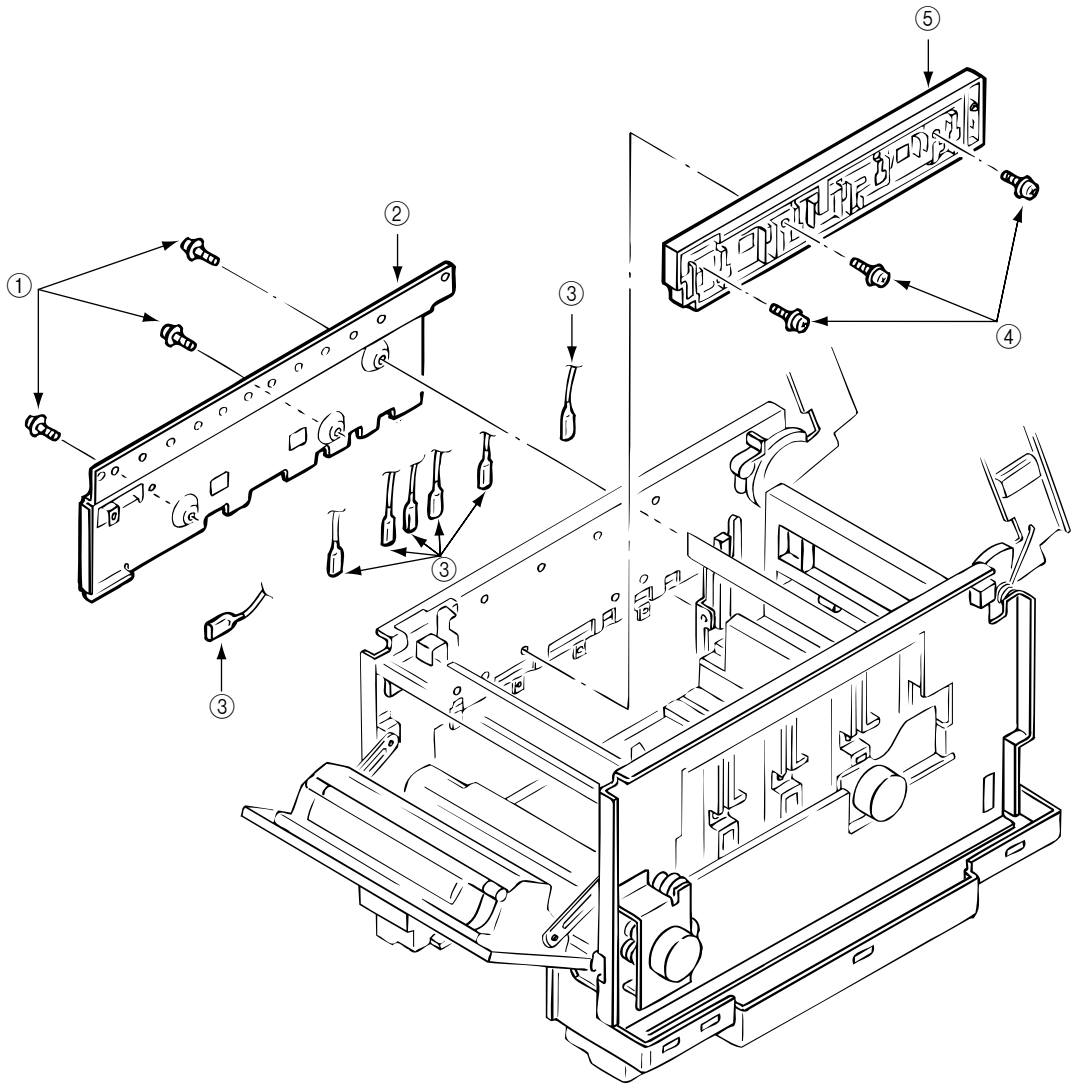


Figure 3.3.38 Contact SB Assy

3.3.39 PXC PCB

1. Remove the contact (BL-R) assy and contact (CL-R) assy. (See 3.3.36)
2. Remove the contact (BL-L) assy and contact (CL-L) assy. (See 3.3.37)
3. Remove the hopping motor. (See 3.3.19)
4. Remove the motor assy BT. (See 3.3.15)
5. Remove the gear heat assy. (See 3.3.12)
6. Remove the roller assy hopping. (See 3.3.25)
7. Remove the holder gear toner assy. (See 3.3.30)
8. Remove the high voltage power supply unit. (See 3.3.33)
9. Unplug the inlet AC. (See 3.3.16)
10. Unscrew 9 screws ① then remove the guide cassettes (L) ② and (R) ③ together.
11. Unscrew the screw ④ then remove the switch ⑤.
12. Unscrew the screw ⑥ then remove the PXC PCB ⑦.

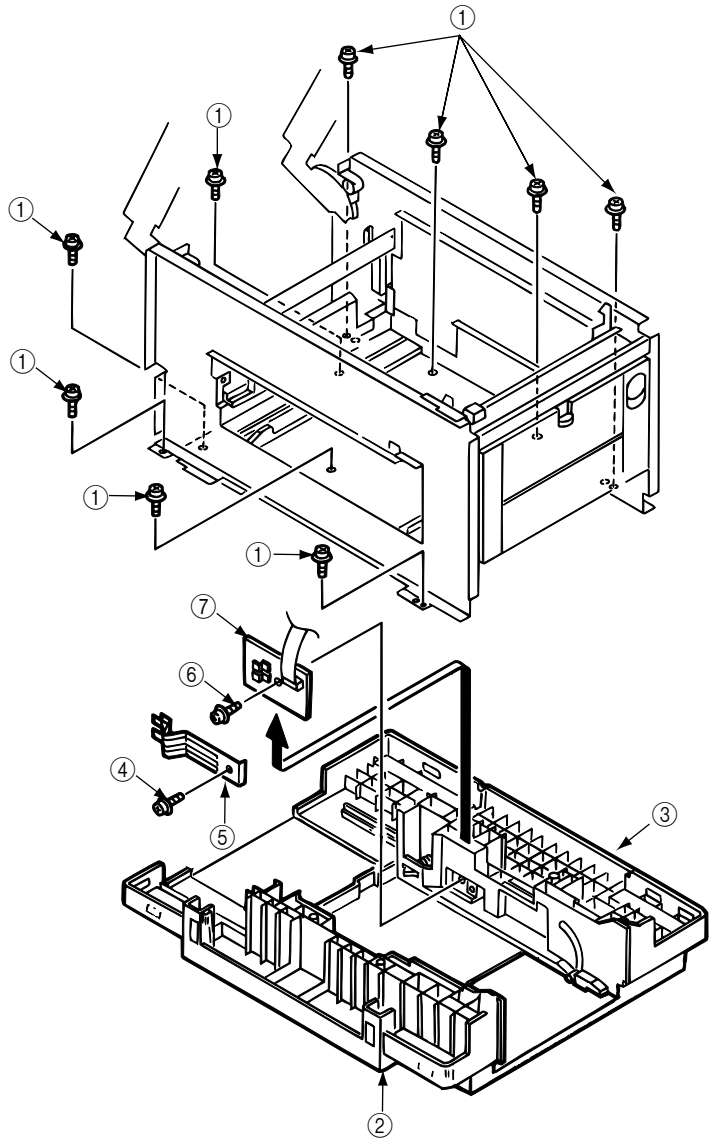


Figure 3.3.39 PXC PCB

3.3.40 Heat Unit Assy

1. Open the stacker cover.
2. Release the lock by turning down the lever lock heat guides (blue) on both sides, then lift the heat unit assy ① and remove it.

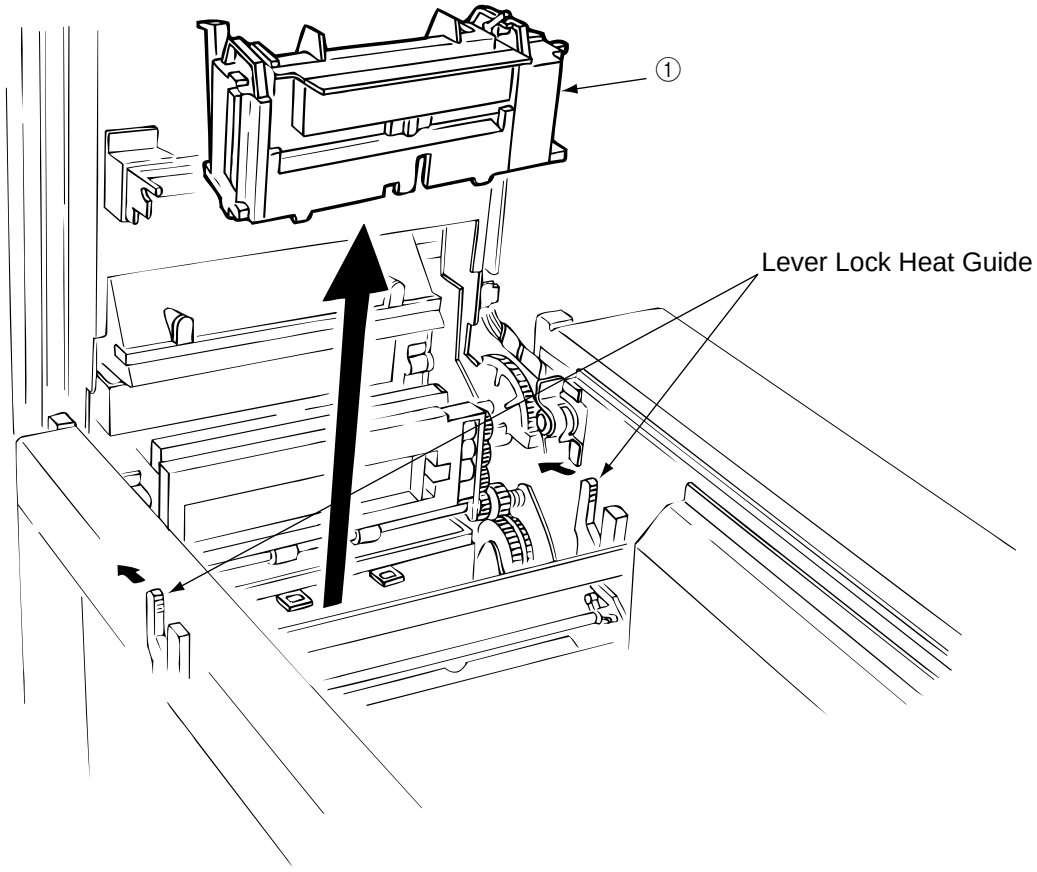


Figure 3.3.40 Heat Unit Assy

3.3.41 Oil Roller Assy

1. Remove the heat unit assy. (See 3.3.40)
2. Release the lock by turning down the lever in the arrow (A) direction, then slide the oil roller assy ① with its right side lifted and remove it.

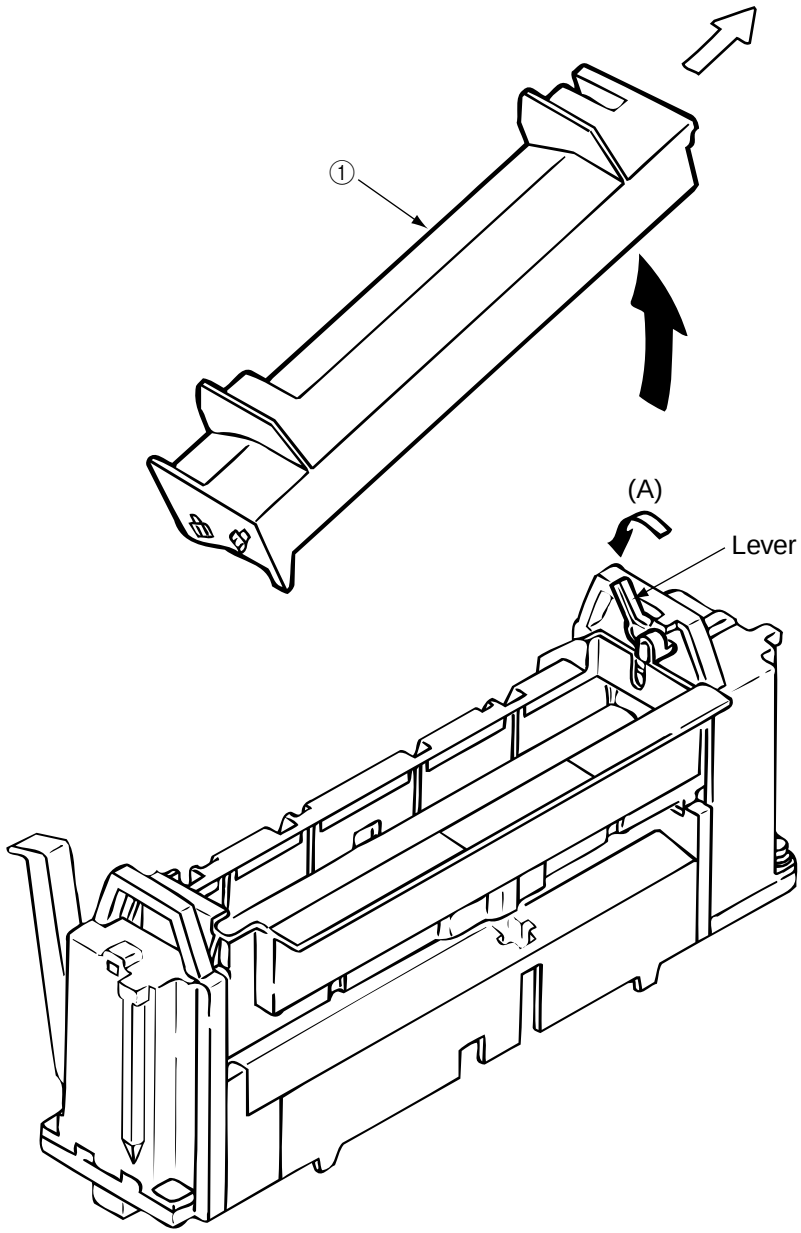


Figure 3.3.41 Oil Roller Assy

3.3.42 Lever Lock Heat (L)/(R), Guide Side Heat, Spring Lock

Removing methods for right side and left side of each part are the same. Here describes the method for right side.

1. Remove the heat unit assy. (See 3.3.40)
2. Unscrew 2 screws ① then remove the guide side heat ②.
3. Remove the E-ring ③ then lever lock heat (R) ④.
   (Be careful not to lose the spring lock ⑤ which slips off together.)

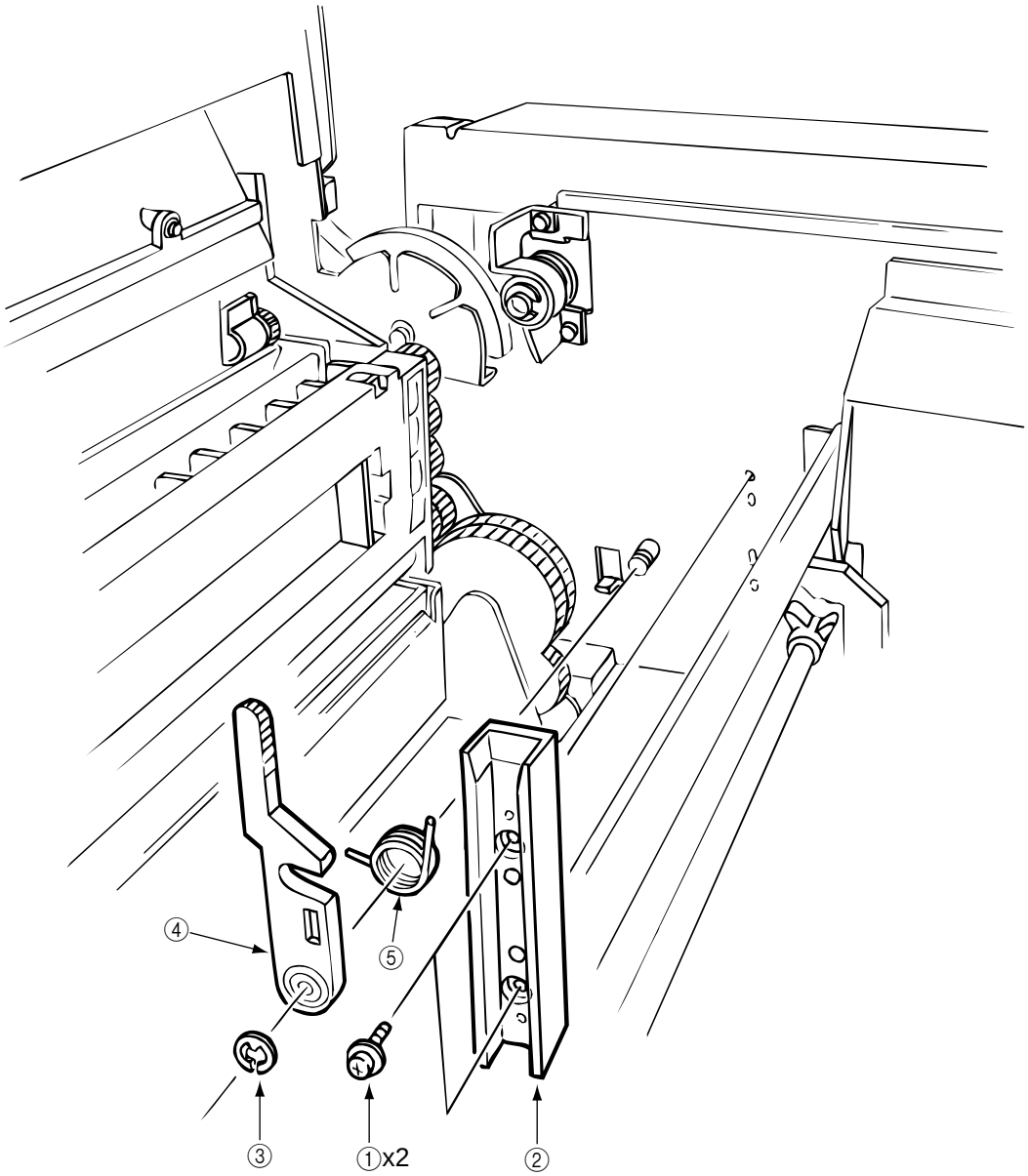


Figure 3.3.42 Lever Lock Heat (L)/(R), Guide Side Heat, Spring Lock

3.3.43 PXL PCB

1. Remove the paper eject assy. (See 3.3.3)
2. Remove the belt cassette assy. (See 3.3.32)
3. Remove the heat unit assy. (See 3.3.40)
4. Unplug the cable ① and the screw ②, then remove PXL PCB ③.
5. Release the lock of the claw then remove the sensor cover ④.

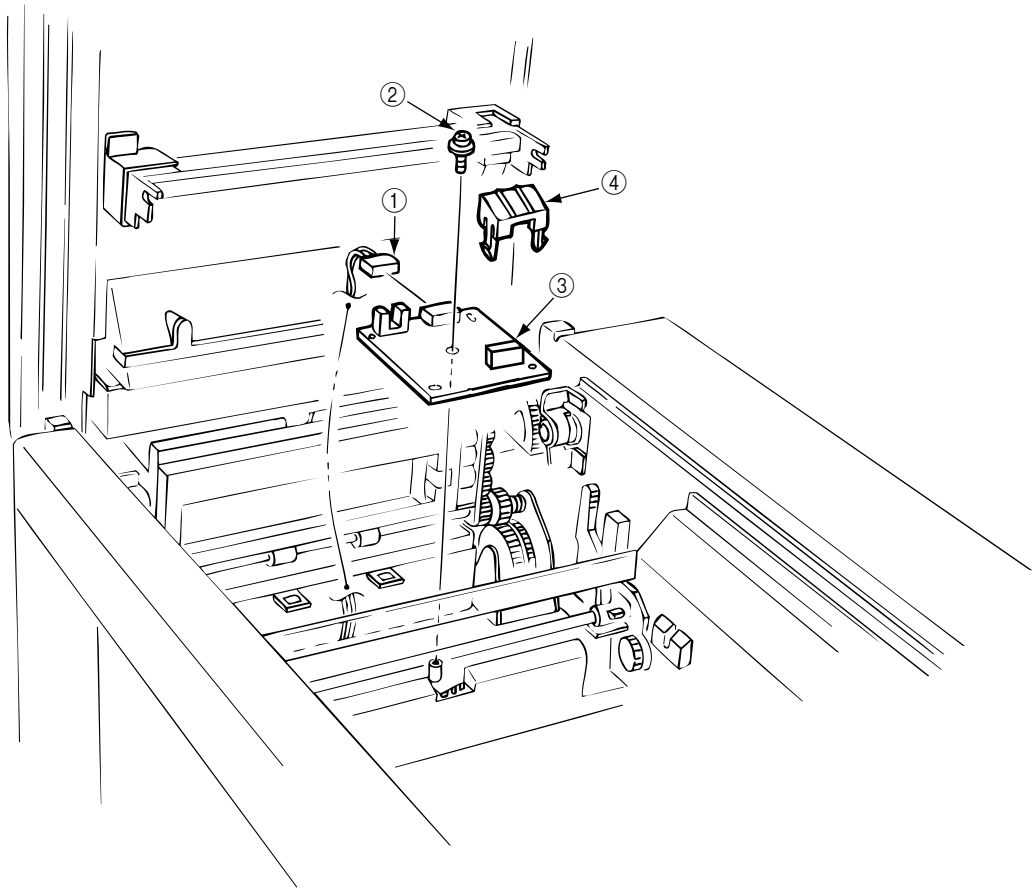


Figure 3.3.43 PXL PCB

3.3.44 Heat Unit Guide Assy

1. Remove the cover assy rear. (See 3.3.1)
2. Remove the paper eject assy. (See 3.3.3)
3. Remove the gear heat assy. (See 3.3.12)
4. Remove the belt cassette assy. (See 3.3.32)
5. Open the stacker cover and remove the heat unit assy. (See 3.3.40)
6. Unscrew 4 screws ① then remove the heat unit guide assy ②.

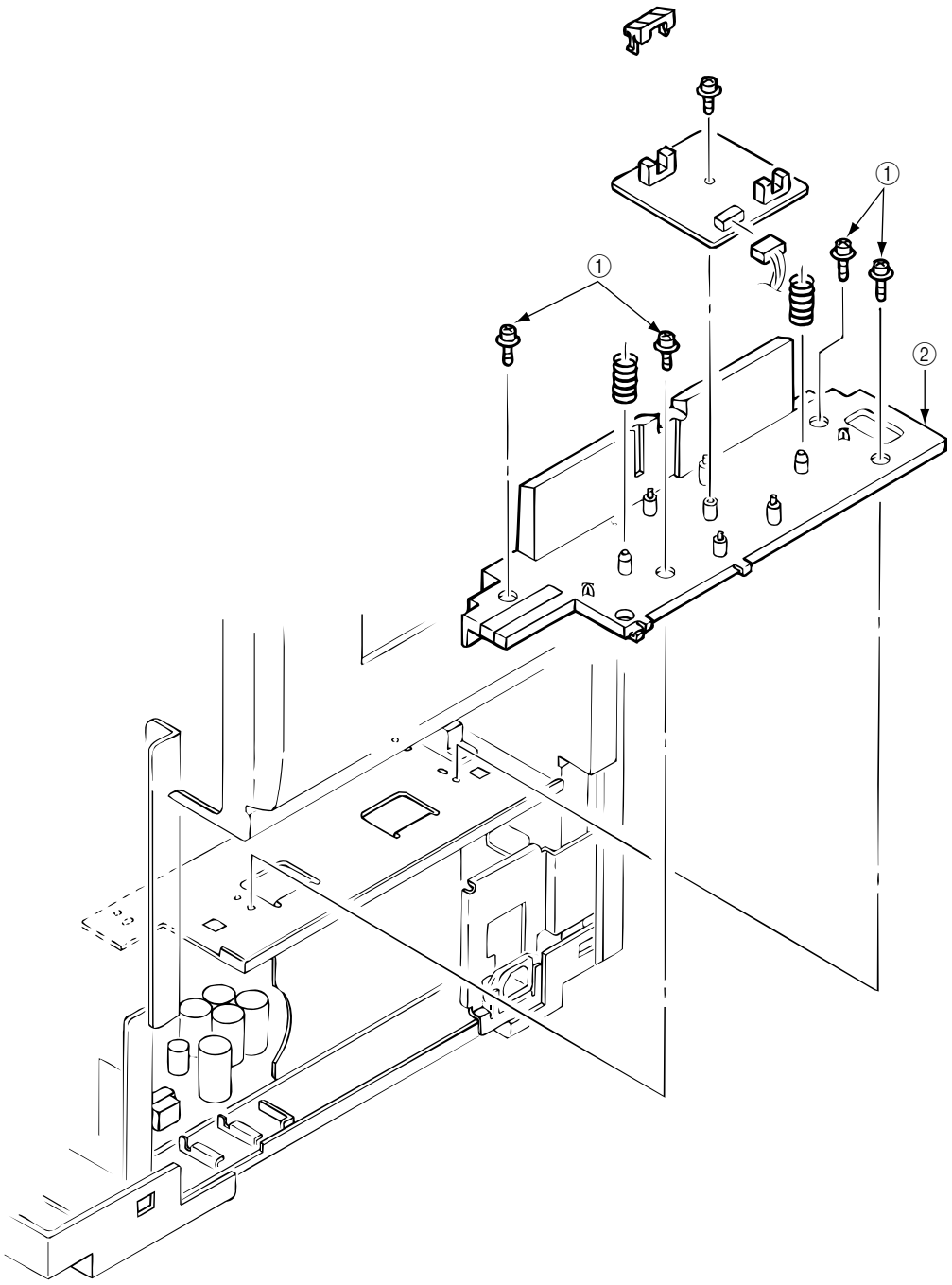


Figure 3.3.44 Heat Unit Guide Assy

3.3.45 Holder LED Assy, LED Head

Remove the belt cassette assy and the heat unit assy.

1. Unplug the cable ①.
2. Remove the LED head ③ by spreading the holder LED assy ② a little bit.
   (Be careful not to lose the spring ④ which slips off together.)
3. Remove the holder LED assy ② by spreading the A-part of the guide holder a little bit with a flat blade screwdriver.
   (Be careful not to lose the spring ⑤ which slips off together.)

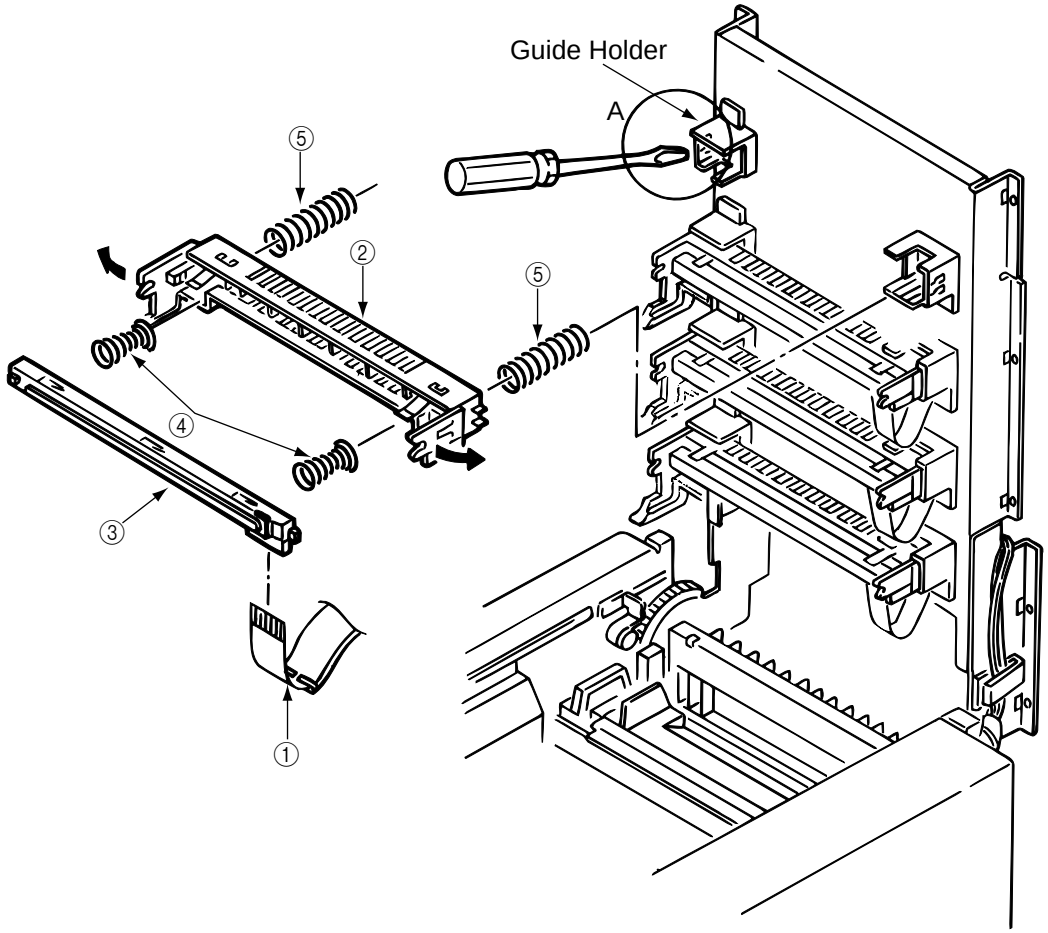


Figure 3.3.45 Holder LED Assy, LED Head

4. ADJUSTMENTS

Adjustments are carried out by key operations on the operator panel, by software operation panel, and by EEPROM of PU (PX4-PCB) setting.

This page printer supports three maintenance modes. Select and set a maintenance mode fit for the adjustment.

4.1 Maintenance Modes and Their Functions

4.1.1 User maintenance mode

To set the user maintenance mode, turn on the power switch of the page printer while pressing on the MENU key.

- Functions
  - Menu reset
  - Resource save area
  - Operator panel menu disable
  - Y adjust
  - Hex dump
  - Receive buffer size
  - X adjust

(a) Menu reset
① Resets all Menu Level 1 settings to the default settings (which have been factory-set).
② Resets all executable Emulation menu items (including options) to factory-set default emulation items.

(b) Hex dump
① Receives data from the host computer and dumps it in a hexadecimal format.
② When one page of data or more comes from the host, printing automatically starts. To print out data of less than one page, press the ONLINE key to set the offline state and press the EJECT key. Printing starts.
③ To exit this mode, shut off power to the page printer. (This is the only one way to exit this mode.)

(c) Resource save area
Sets the resource saving area. This menu item appears when the option PS SIMM and RAM increases, the selectable size will also increase (When adding a RAM over 24Mbytes, the selection can be made up to 22.5Mbytes). The size upon auto will also increase if the size of the add-on RAM increases.

(d) Receive buffer
Sets the receive buffer. The data transmission time from the upper command will decrease when set to a high value, but memory overflow will occur easier. Memory will be restructured with this change, and the contents of all download fonts, PCL macro, and PodtScript will be lost.

(e) Operator panel menu disable
Enables or disables the menu functions (Menu1, Menu2, Tray Type, Power Save, and Paper Size) of the operator panel.

(f) X adjust
① Corrects the position of the whole print image so that it may be perpendicular to the movement of paper (at intervals of 0.25mm).
② The print image exceeding the specified printable area is clipped.

(g) Y adjust
① Corrects the position of the whole print image so that it may be parallel to the movement of paper (at intervals of 0.25mm).
② The print image exceeding the specified printable area is clipped.

User maintenance mode memu system

Category	Selection	DF	After pressing ENTER key	After completing the process
MENU RESET			MENU RESETTING	MENU RESET
HEX DUMP			ON-LINE HEX DUMP	
RESOURCE SAVE	AUTO OFF 400KB 900KB 1.6MB 2.5MB • • • 19.6MB 22.5MB	*		
RECEIVE BUFFER	AUTO OFF 100KB 512KB 1MB	*		
ECP	ENABLE DISABLE	*		
OP MENU	ENABLE DISABLE	*	SETTING EEPROM	
X ADJUST	0 mm +0.25 mm +0.50 mm ~ +2.00 mm -2.00 mm -1.75 mm ~ -0.25 mm	*	SETTING EEPROM	
Y ADJUST	0 mm +0.25 mm +0.50 mm ~ +2.00 mm -2.00 mm -1.75 mm ~ -0.25 mm	*	SETTING EEPROM	

4.1.2 System maintenance mode

To set the system maintenance mode, turn on the power switch of the page printer while pressing on the Recover key.

Note: The system maintenance mode is hidden and not available to the user.

To exit this mode, press the ONLINE switch except during rolling ASCII continuous printing. Then the RUN mode is set.
In the system maintenance mode, the category changes each time the MENU switch is pressed. The last category wraps around to the first category. The system maintenance mode supports the following functions:

- Page count display
- Rolling ASCII continus prinitng
- HSP ERROR recovery
- HSP ERROR count reset
- Page count printing enable/disable
- EEPROM reset
- HSP ERROR count display

(1) Page count display

- The total number of pages counted at the engine is displayed on the LCD.

(2) Page count printing enable/disable

- This function selects whether to include (enable) or exclude (disable) the total number of printed pages counted at the engine at the time of menu printing.

(3) Rolling ASCII continuous printing

- The rolling ASCII pattern is printed continuously for various engine tests.
- Press the ON-LINE key to cancel this mode.

(4) EEPROM reset

- All EEPROM areas including Menu level-2 to the factory default values.
- The following items are excluded
  Head drive time setting

  ENGINE Maintenance Item

  Revision (Including Destination setting)

(5) HSP ERROR recovery

- Select HSP ERROR recovery function either recover or stop.

(6) HSP ERROR count

- Display total HSP ERROR count.

(7) HSP ERROR count reset

- Reset the HSP ERROR counter.

System Maintenance mode menu system

Category	Selection	DF	After pressing ENTER key	After completing the process
PAGE CNT nnnnnn				
PAGE PRT	DISABLE ENABLE	*		
CONT PRT			CONT PRT PRINTING	CONT PRT CANCELLED (ON LINE SW Press)
EEPROM RESET			EEPROM RESETTING	EEPROM RESET
HSPERR	RECOVER STOP	*	SETTING EEPROM	
HSPERR CNT nn				
HSPERR CNT RST			HSPERR RESETTING	HSPERR CNT RST

4.1.3 Engine maintenance mode

To set the engine maintenance mode, turn on the power switch of the page printer while pressing on the ENTER and FORM FEED keys. The engine maintenance mode is set and “ENG MNT” is displayed on-screen.

Note: The engine maintenance mode is hidden and not available to the user.

To exit this mode, press the ONLINE switch. The operation mode is set. The engine maintenance mode supports the following functions:

- Head drive time setting (YELLOW, MAGENTA, CYAN, BLACK)
- Drum count display (YELLOW, MAGENTA, CYAN, BLACK)
- Total drum count display (YELLOW, MAGENTA, CYAN, BLACK)
- Fuser count display
- Belt count display
- Oil roller count display
- Setting of standard tray paper feed length
- Setting of second tray paper feed length
- Setting of frontfeeder paper feed length
- Engine reset

(1) Head drive time setting (Yellow, Magenta, Cyan, and Black)
Sets the time of driving each LED head.

(2) Drum count display (Yellow, Magenta, Cyan, and Black)
Displays the number of revolutions of each EP drum counted by the engine on the LCD.

(3) Total drum count display (Yellow, Magenta, Cyan, Black)
Displays the total number of rotations at each color.

(4) Fuser count display
Displays the total number of pages by Fuser which have been counted by the engine.

(5) Belt count display
Displays the total number of pages by Belt which have been counted by the engine.

(6) Oil roller count display
Displays the counter of the oil roller.

(7) T1 position (Setting of standard tray paper feed length)
Sets a value for correcting the amount of paper feeding of the standard tray.

(8) T2 position (Setting of second tray paper feed length)
Sets a value for correcting the amount of paper feeding of the second tray.

(9) Engine reset
- Resets the contents of all EEPROM areas used by the engine with default values.
- Does not reset the following items:
  LED head drive time
  Menu level 1
  Menu level 2
  Operator Panel Menu Disable/Enable
  Page Print Disable/Enable

Engine maintenance mode memu system (1/2)

Category	Selection	DF	After pressing ENTER key	After completing the process
YELLOW LED HEAD	No.1 No.2 - No.16 No.17 - No.32		SETTING EEPROM	
MAGENTA LED HEAD	No.1 No.2 - No.16 No.17 - No.32		SETTING EEPROM	
CYAN LED HEAD	No.1 No.2 - No.16 No.17 - No.32		SETTING EEPROM	
BLACK LED HEAD	No.1 No.2 - No.16 No.17 - No.32		SETTING EEPROM	

Engine maintenance mode menu system (2/2)

Category	Selection	DF	After pressing ENTER key	After completing the process
YELLOW DRMCNT nnnn				
Yellow DRMCNT T nnnnnnn				
MAGENTA DRMCNT nnnn				
Magenta DRMCNT T nnnnnnn				
CYAN DRMCNT nnnn				
Cyan DRMCNT T nnnnnnn				
BLACK DRMCNT nnnn				
Black DRMCNT T nnnnnnn				
FUSER COUNT nnnn				
BELT COUNT nnnn				
Oil Roller Count nnnnnnn				
T1 POSITION	0 mm +1 mm ~ +7 mm -8 mm ~ -1 mm	*	SETTING EEPROM	
T2 POSITION	0 mm +1 mm ~ +7 mm -8 mm ~ -1 mm	*	SETTING EEPROM	
FF POSITION	0 mm +1 mm ~ +7 mm -8 mm ~ -1 mm	*	SETTING EEPROM	
ENGINE RESET			ENGINE RESETTING	ENGINE RESET

4.2 Adjustments after Parts Replacement

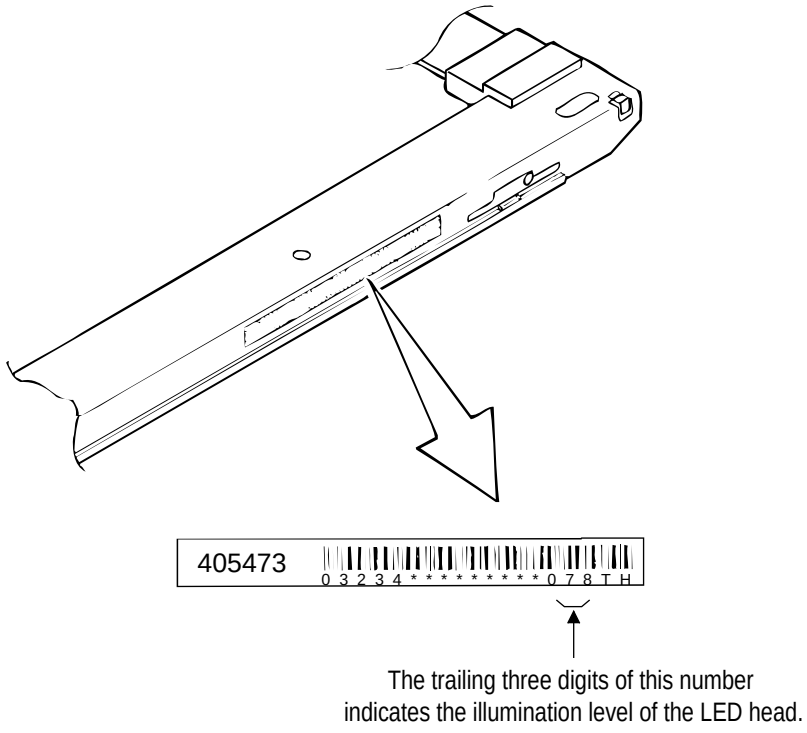
Adjustments required after parts replacement are listed below.
Adjustment and correction of color deviations are always required after parts are replaced.

Part replaced	Adjustment required
LED head	Correct color deviations.
Drum cartridge (Y, M, C, B, and K)	Reset the drum counter and correct color deviations.
Fuser Unit	Reset the fuser counter and correct™™ color deviations.
Belt cassette assembly	Reset the belt counter and correct color deviations.
EEPROM (PU block)	Correct color deviations.
Oil Roller	Reset the oil roller counter.
Other parts	Correct color deviations (if any).

4.2.1 Confirm the LED head driving time

Note: The OKICOLOR 8/ OKIPAGE 8c Plus, if a new LED HEAD is placed, reads the contents of EEPROM within the LED HEAD, automatically re-setting the drive time. Therefore, the re-setting of drive time is unnecessary, but a confirmation to the drive time re-set is necessary.

- Display of illumination level of the LED head



Find a parameter value corresponding to the illumination level of the LED head in the table below.

a. Illumination Level - LED Driving Time table

Parameter value (displayed on LCD)	Illumination level of LED head	Parameter value (displayed on LCD)	Illumination level of LED head
1	155	17	53 - 57
2	145 - 154	18	50 - 52
3	136 - 144	19	47 - 49
4	127 - 135	20	44 - 46
5	119 - 126	21	41 - 43
6	111 - 118	22	38 - 40
7	104 - 110	23	36 - 37
8	97 - 103	24	33 - 35
9	91 - 96	25	31 - 32
10	85 - 90	26	29 - 30
11	80 - 84	27	27 - 28
12	74 - 79	28	26 - 26
13	70 - 73	29	25 - 25
14	65 - 69	30	22 - 24
15	61 - 64	31	21 - 21
16	58 - 60	32	20

4.2.2 Color deviation correction

After replacing a part of the page printer, be sure to check whether colors are matched. If not, correct the deviations.

- Method of correcting color deviations

  (a) Enter Menu 2 mode, select the Color Deviation Correction mode (COLOR REG ADJUST EXECUTE), and print out a color chart (PRINT PATTERN).

  (b) Watch the printed color and check color deviations (#1 to #3 for yellow, #4 to #6 for magenta, and #7 to #9 for cyan).

  (c) After a color chart is printed out, the menu shows the ADJUST #1 mode for entering a correction value for the left (#1) yellow chart.

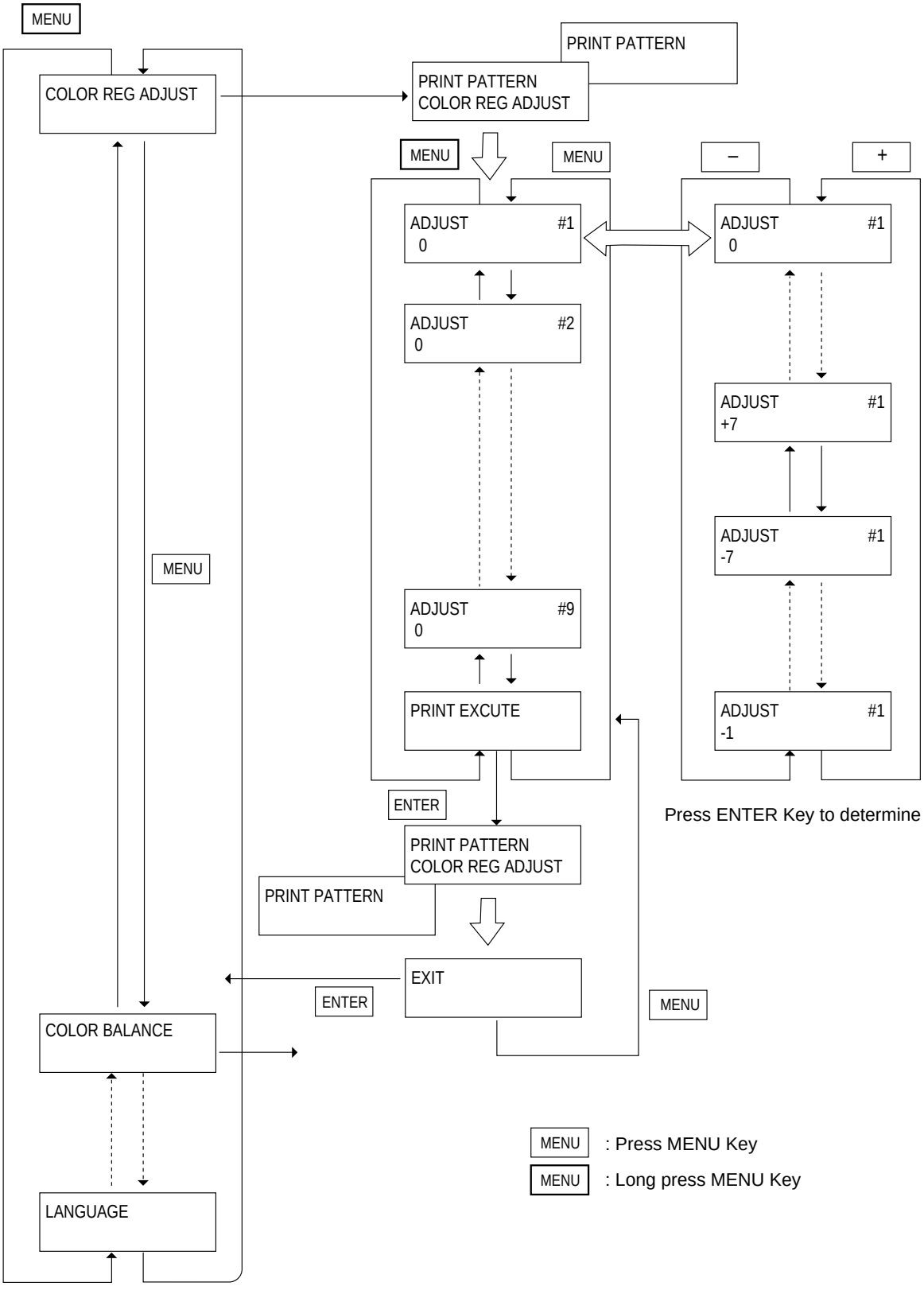
  (d) Enter correction values for #1 (left yellow chart), #2 (middle yellow chart) and #3 (right yellow chart). Similarly enter correction values for #4 to #6 for left, middle, and center magenta charts and for #7 to #9 for left, middle, and center cyan charts.

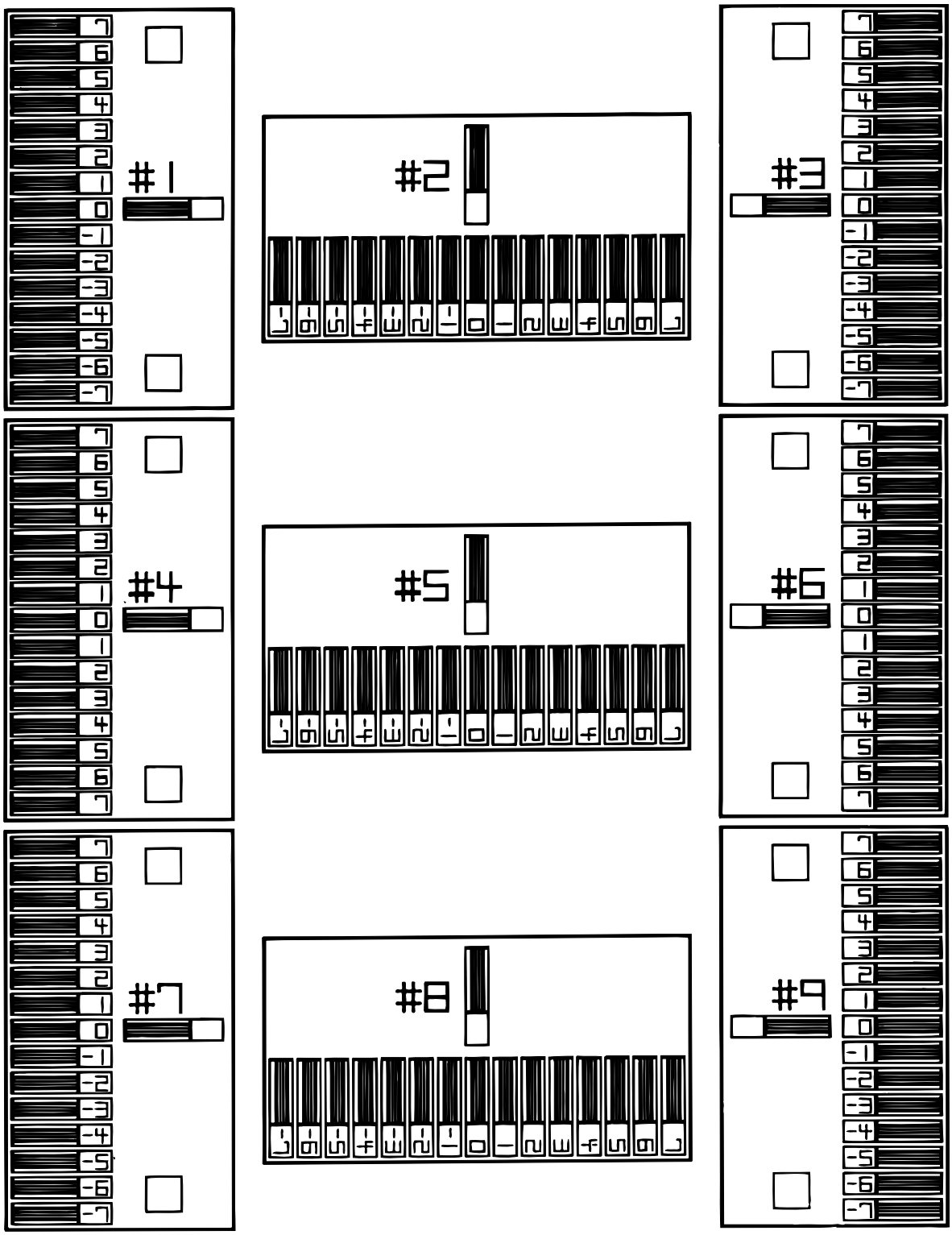
  (e) After entering all correction values, print out a new color chart (by PRINT EXECUTE), and check color deviation.

  (f) Repeat the above steps until all colors match.

  (g) Press the Enter switch to exit the color correction mode (by EXIT).

  The menus for correction of color deviations are as follows:


MENU
COLOR REG ADJUST
PRINT PATTERN
PRINT PATTERN
COLOR REG ADJUST
MENU
MENU
–
+
ADJUST #1
0
ADJUST #2
0
ADJUST #9
0
PRINT EXCUTE
ADJUST #1
0
ADJUST #1
+7
ADJUST #1
-7
ADJUST #1
-1
Press ENTER Key to determine
ENTER
PRINT PATTERN
COLOR REG ADJUST
PRINT PATTERN
EXIT
ENTER
MENU
MENU
COLOR BALANCE
LANGUAGE
MENU : Press MENU Key
MENU : Long press MENU Key



olor check pattern

5. PERIODIC MAINTENANCE

5.1 Periodically Replaced Parts

We recomend user that as specified, the parts shall be replaced periodically. (If not replaced, the printout quality may not be assured and in extreme cases, the page printer may be in trouble.)

Parts Name	Display of warning condition	Recommend condition for replacement	Adjustment after replacement
Toner Cartridge	When the "TONER LOW" message is displayed	When 3,000 page are printed out (5% print density) (withoyt the first cartridge)	Replaced Toner Cartridge
I/D Unit	When the “CHG DRUM” message is displayed	When 12,000 pages are printed out	Reset the drum counter of the replaced drum.
Holder Assy Oil Roller	When the "OIL ROLLER LIFE" message is displayed	When 10,000 page are printed out	Replaced Holder Assy Oil Roller
Box toner Assy	When the "WASTE TONER FULL " message is displayed	When 2,500 page are printed out (single images of 5% print density)	Replaced Box toner Assy
Heat Unit Assy	When the “FUSER LIFE” message is displayed	When 60,000 pages are printed out	Reset the fuser counter.
Belt cassette Assy	When the “BELT LIFE” message is displayed	When 50,000 pages are printed out	Reset the belt counter.

The above periodic parts replacement is carried out by User.

5.2 Cleaning

Periodically clean the inside and outside the page printer with soft cloth and small vacuum cleaner (Handy Cleaner) when necessary.

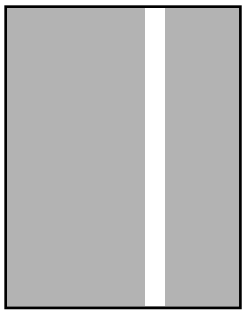
CAUTION:
Do not touch the terminals of the image drums, the LED lens array, and the LED head connector block.

5.3 Cleaning the LED Lens Array

The LED lens array must be cleaned when the printed paper has white lines or irregular colors (vold, light printing) along vertically down of the paper.

CAUTION:
Always use the LED head cleaner to clean the LED lens array. (The LED head cleaner always comes with the toner cartridge.)

White line or irregular color
(vold, light printing)



5.4 Cleaning the Pickup Roller

When lines along the length are developed, clean up Pick up Roller.

(Note) Clean it up with a soft cloth and the like so that the surface is not scratched.

6. TROUBLESHOOTING PROCEDURES

6.1 Troubleshooting Tips

(1) Check the basic check points covered in the user's manual.

(2) Gather as much information on the problem from the customer as possible.

(3) Perform inspections in conditions close to those in which the problem had occurred.

6.2 Points to Check before Correcting Image Problems

(1) Is the printer being run in proper ambient conditions?

(2) Have the supplies (toner) and the routine replacement part (image drum cartridge) been replaced properly?

(3) Is the paper normal? See paper specifications section.

(4) Has the image drum cartridge been loaded properly?

6.3 Tips for Correcting Image Problems

(1) Do not touch, or bring foreign matter into contact with the surface of the image drum.

(2) Do not expose the image drum to direct sunlight.

(3) Keep hands off the fuser unit as it is heated during operation.

(4) Do not expose the image drum to light for longer than 5 minutes at room temperature.

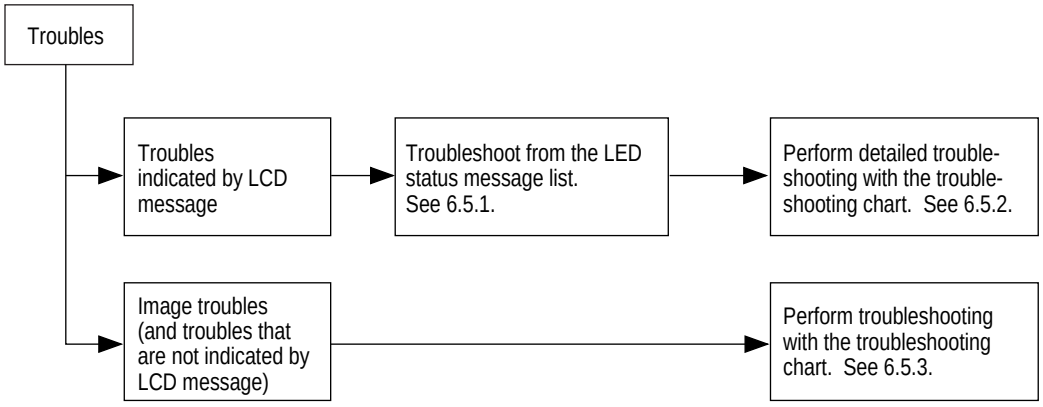
6.4 Preparation for Troubleshooting

(1) Operator panel display

The failure status of this printer is displayed on the liquid crystal display (LCD) in the operator panel. Take proper corrective action as directed by messages that are displayed on the LCD.

6.5 Troubleshooting Flow

If troubles should develop in this printer, troubleshoot in the following procedure flow:


Troubles
Troubles indicated by LCD message
Troubleshoot from the LED status message list. See 6.5.1.
Perform detailed trouble-shooting with the trouble-shooting chart. See 6.5.2.
Image troubles (and troubles that are not indicated by LCD message)
Perform troubleshooting with the troubleshooting chart. See 6.5.3.

6.5.1 LCD status message/trouble list

Table 6-1 lists the status and troubles that may be indicated by messages on the LCD.

xxx: Emulation in operation (AUT, PCL, PS)
ffff: Trays (Tray1, Tray2, Front)
mmmmmm: Paper Size (Letter, A4, etc...)

Category	LCD Status Message	LED						Trouble or Status	Remedy
		K	C	M	Y	READY	ATTENTION		
Daily status	TNR SNS *******	ON	ON	ON	ON	Undefined	ON	Indicates that Toner sensor is abnormal when page counter is above thirty. (The LED of the color lights)	This massage is cleared when the drum is properly positioned or sensor lever which is exchanged correspond to the LED color lights.
	FRONT TRAY ERROR PRESS RECOVERKEY	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Indicates that the front feeder has caused a home position error.	The front feeder becomes not available when the RECOVER switch is pressed. The other tray is available. This message is cleared when the front feeder assembly is replaced.
Buffer Overflow	ERROR MEMORY OVERFLOW	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Indicates that data overflowed the memory space. - Too much print data in one page - Too much macro data - Too much DLL data - Data overflow after compression of frame data	This error is recovered when the RECOVER switch is pressed. Expand RAM or reduce data.
	ERROR RECEIVE BUFFER OVERFLOW	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Indicates that the receive buffer was overflowed.	This error is recovered when the RECOVER switch is pressed. Change the setting of Receive Buffer Size in the User Maintenance more bigger then send the data from the host or expand RAM.
Paper Size Error	ERROR PAPER SIZE CHECK ttttt	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Indicates that paper of the illegal size was fed from the specified tray. ttttt: Tray type (Tray 1, Tray 2, or Front)	Check the size of paper in the tray or whether two or more paper sheets are fed at a time. When the cover is opened and closed, this error is reset and printing resumes. If this error occurs frequently, go to 6.5.2.
Paper Jam Error	PAPER INPUT JAM CHECK ttttt	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Indicates that a paper jam occurred on the paper feeding from the specified tray. ttttt: Tray type (Tray 1, Tray 2, or Front)	Check the size of paper in the tray or whether two or more paper sheets were fed at a time. When the cover is opened and closed, this error is reset and printing resumes. If this error occurs frequently, go to 6.5.2.

Category	LCD Status Message	LED						Trouble or Status	Remedy
		K	C	M	Y	READY	ATTENTION		
Paper Jam Error	PAPER FEED JAM CHECK ttttt	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Indicates that a paper coming out of the tray jammed on the paper traveling printer. ttttt: Tray type (Tray 1, Tray 2, or Front)	Check the size of paper in the tray or whether two or more paper sheets were fed at a time. When the cover is opened and closed, this error is reset and printing resumes. If this error occurs frequently, go to 6.5.2.
	PAPER EXIT JAM REMOVE THE PAPER	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Indicates that a paper jammed on the way to the exit.	Open the cover and remove a paper jam from the inside of the page printer. When the cover is opened and closed, this error is reset and printing resumes. If this error occurs frequently, go to 6.5.2.
Interface Error	Jam 001 Error	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Indicates that Process error occurred.	Notifies that the power supply LSI has been reset due to noise, etc. (process error) Open cover and remove the paper. Close cover to recover and proceed.
Controller Error	EEPROM RESETTING	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Indicates that the ID number of EEPROM is invalid.	Sets the default values in EEPROM and it'll be recovered automatically.

Category	LCD Status Message	LED						Trouble or Status		Remedy
		K	C	M	Y	READY	ATTENTION			
Controller Error	ERROR nn	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Code (nn)	Details of error	Remedy
								10	Indicates that an error was found in the program ROM by the program ROM check.	Turn on the power of the page printer again. If this error still occurs, replace the program ROM on the main board (PCE PCB) or the main board itself. When replacing the main board (PCE PCB), demount the EEPROM chip from the old main board and remount it on the new main board.
								30	Indicates that an error was found in the resident RAM by the resident RAM check.	Turn on the power of the page printer again. If this error still occurs, replace the main board (PCE PCB). When replacing the main board (PCE PCB), demount the EEPROM chip from the old main board and remount it on the new main board.
								40	Indicates that an error was found in the EEPROM by the EEPROM check.	Turn on the power of the page printer again. If this error still occurs, replace the program ROM on the main board (PCE PCB) or the main board itself. When replacing the main board (PCE PCB), demount the EEPROM chip from the old main board and remount it on the new main board.
								50	Indicates that an error was found in the optional ROM by the optional ROM check.	Turn on the power of the page printer again. If this error still occurs, replace the optional ROM on the main board (PCE PCB) or the main board itself. When replacing the main board (PCE PCB), demount the EEPROM chip from the old main board and remount it on the new main board.
								60	Indicates that an error was found in the optional RAM by the optional RAM check.	Check the connection of the option RAM. Turn on the power of the page printer again. If this error still occurs, replace the main board (PCE PCB) or the option RAM. When replacing the main board (PCE PCB), demount the EEPROM chip from the old main board and remount it on the new main board.

Category	LCD Status Message	LED						Trouble or Status		Remedy
		K	C	M	Y	READY	ATTENTION			
Controller Error	ERROR nn	Blink	Blink	Blink	Blink	OFF	Blink	Code (nn)	Details of error	Remedy
								77	Indicates that Toner sensor is abnormal when page counter is below thirty.(alarm)	This massage is cleared when the drum is properly positioned or sensor lever which is exchanged correspond to the LED color lights.
		Undefined	Undefined	Undefined	Undefined	OFF	Blink	80	Indicates that a timeout occurred on interface between the page printer and the operator panel.	Check the connection between the main board and the operation panel. Turn on the power of the page printer again. If this error still occurs, replace the cable, the main board (PCE PCB) or the cover assembly operation panel. When replacing the main board (PCE PCB), demount the EEPROM chip from the old main board and remount it on the new main board.
								82	Indicates that a timeout occurred on CU-PU interface.	Check the connection between the main board and the engine board. Turn on the power of the page printer again. If this error still occurs, replace the program ROM of the main board (PCE PCB) or the engine board (PX4 PCB), or the board itself. When replacing the main board (PCE PCB), demount the EEPROM chip from the old main board and remount it on the new main board.
		Blink	Blink	Blink	Blink	OFF	Blink	92	Indicates that the printer overruns.	See Chapter 6.5.2
		Undefined	Undefined	Undefined	Undefined	OFF	Blink	D6	Yellow Image drum unit up/down error	See Chapter 6.5.2
								D7	Magenta Image drum unit up/down error	See Chapter 6.5.2
								D8	Cyan Image drum unit up/down error	See Chapter 6.5.2
								D9	Black Image drum unit up/down error	
								DA	Environment temperature sensor error	Make sure that the surrounding temperature stays -10 < t< 50°C. If this condition is not satisfied, adjust the surrounding temperature, otherwise satisfied, replace the sensor board (RXM-PCB), junction board (PXF-PCB) or engine board (PX4-PCB).

Category	LCD Status Message	LED						Trouble or Status		Remedy
		K	C	M	Y	READY	ATTENTION			
Controller Error	ERROR nn	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Code (nn)	Details of error	Remedy
								DB	Humidity sensor error	Make sure that the relative humidity stays 0% < h < 95%. (the subsequent contents are the same as those of [DA])
								DC	Waste-toner sensor error	Re-mount the waste toner box and re-power on to ensure whether the alarm goes off or not. If the alarm stays on, exchange waste toner sensor, or replace the junction board (PXF-PCB) or engine board (PX4-PCB).
								DE	Pinch roller up/down error	Turn on the power of the page printer again. If this error still occurs, replace the engine board (PX4 PCB) or the front feed assembly.
								E0	Fusing Unit Error	See Chapter 6.5.2
								E1	Fan Motor Error	See Chapter 6.5.2
								E8	Option status error 2 (Error on interface between the engine board and the second tray)	Check the connection between the engine board and the second tray board. Turn on the power of the page printer again. If this error still occurs, replace the program ROM of the engine board (PX4 PCB), the junction board (PXF PCB), the second tray board (AOLT PCB). When replacing the main board, demount the EEPROM chip from the old main board and remount it on the new main board.
								E9	SRAM error	Turn on the power of the page printer again. If this error still occurs, replace the program ROM of the engine board (PX4 PCB) or the engine board. When replacing the main board, demount the EEPROM chip from the old main board and remount it on the new main board.
								EA	PW-LSI error	Turn on the power of the page printer again. If this error still occurs, replace the power supply board (power-supply PCB).

Category	LCD Status Message	LED						Trouble or Status		Remedy
		K	C	M	Y	READY	ATTENTION			
Controller Error	ERROR nn	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Code (nn)	Details of error	Remedy
								EC	Engine firmware lost control	Turn on the power of the page printer again. If this error still occurs, replace the program ROM of the engine board (PX4 PCB) or the engine board. When replacing the main board, demount the EEPROM chip from the old main board and remount it on the new main board.
								ED	EEPROM error (Timeout)	Turn on the power of the page printer again. If this error still occurs, replace the EEPROM of the engine board (PX4 PCB) or the engine board. When replacing the main board, demount the EEPROM chip from the old main board and remount it on the new main board.
								EE	EEPROM error (Not Exist)	Turn on the power of the page printer again. If this error still occurs, replace the EEPROM of the engine board (PX4 PCB) or the engine board. When replacing the main board, demount the EEPROM chip from the old main board and remount it on the new main board.
								EF	Engine ROM/RAM error	Turn on the power of the page printer again. If this error still occurs, replace the program ROM of the engine board (PX4 PCB) or the engine board. When replacing the main board, demount the EEPROM chip from the old main board and remount it on the new main board.
								F0	Monitor error (Double wait)	Turn on the power of the page printer again. If this error still occurs, replace the program ROM of the main board (PCE PCB) or the main board. When replacing the main board, demount the EEPROM chip from the old main board and remount it on the new main board.

Category	LCD Status Message	LED						Trouble or Status		Remedy
		K	C	M	Y	READY	ATTENTION			
Controller Error	ERROR nn	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Code (nn)	Details of error	Remedy
								F1	Monitor error (Argument error)	Turn on the power of the page printer again. If this error still occurs, replace the program ROM of the main board (PCE PCB) or the main board. When replacing the main board, demount the EEPROM chip from the old main board and remount it on the new main board.
								F4	Engine background error	Turn on the power of the page printer again. If this error still occurs, replace the program ROM of the engine board (PX4-PCB) or the engine board.

Category	LCD Status Message	LED						Trouble or Status		Remedy
		K	C	M	Y	READY	ATTENTION			
Controller Error	ERROR CONTROLLER nn-aaaaaaaa	Undefined	Undefined	Undefined	Undefined	OFF	Blink	Indicates that the controller error has occurred.		Turn on the power of the page printer again. The error will be reset.
								Code (nn)	Details of error	Remedy
								01	TLB (Translation Lookaside Buffer) correction exception	If the error still occurs, replace the main board (PCE PCB). When replacing the main board, demount the EEPROM chip from the old main board and remount it on the new main board.
								02	TLB exception (Load or Instruction Fetch)	
								03	TLB exception (Store)	
								04	Address error exception (Load or Instruction Fetch)	
								05	Address error exception (Store)	
								06	Bus error exception (Instruction Fetch)	
								07	Bus error exception (Data Load or Store)	
								08	System call exception	
								09	Break point exception	
								0A	Reserved instruction exception	
								0B	Co-processor disabled exception	
								0C	Operation overflow exception	
								0D	Trap exception	
								0F	Floating-point exception	
								B0	NMI: Hardware breakpoint	
								B1	NMI: Write protect	
								C0	Cache error	

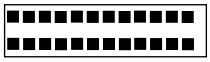
6.5.2 LCD message troubleshooting

If a trouble cannot be repaired according to the LCD message trouble list, troubleshoot according to the troubleshooting chart.

No.	Trouble	Flowchart Number
1	The printer does not work normally after being turned on.	①
2	JAM Error	
	Paper Input Jam (1st Tray)	②-1
	Paper Input Jam (Front Feeder)	②-2
	Paper Feed Jam	②-3
	Paper Exit Jam2-4	②-4
3	Paper Size Error	③
4	I/D Unit Up/Down Error	④
5	Fusing Unit Error	⑤
6	Fan Motor Error	⑥
7	Cannot receive data from parallel interface.	⑦
8	Cannot receive data from HSP interface.	⑧

Note: When replacing the main board (PCE PCB) and the engine board (PX4 PCB), demount the EEPROM chips from the old board and remount them on the new main boards.

① The printer does not work normally after turned on the power of rhe printer.

- Turn off the power of the printer, wait a few seconds, then turn on power again.
- Is  displayed on the LCD (for about 1 second)?

  - No Is the AC cable connected correctly?

    No Connect the AC cable correctly.

  - Yes Does a voltage of +5V are being supplied on the panel connector of the main board (PCE PCB)?
    Pin 5: +5V Pin 2: 0V

    Yes Is the operator panel cable connected correctly?

    No Connect the cable correctly.

    Yes Replace the operator panel cable. Recovered?

    No Replace the cover assembly operator panel.

    Yes End

  - No Check the connection of the PU connector. Does a voltage of +5V are being supplied on the PU connector of the main board (PCE PCB)?
    Pin 6, 15, 26, 35: +5V Pin 1, 3, 5, 11, 20, 21, 40: 0V

    Yes Replace the main board.

  - No Does a voltage of +5V are being supplied on the Power connector of the engine board (PX4 PCB)?
    Pin 11,12, 13, 14: +5V Pin 3, 4, 5, 6, 23, 24, 5, 26, 27, 28, 29, 30: 0V

    No Check the connection of the power connector or replace the low-voltage power supply unit.

  - Yes Replace the engine board.

- Yes Do the following voltages are being supplied on the PU connector of the main board?
  Pin 6, 15, 26, 35: +5V Pin 2, 22: +3.3V
  Pin 23: -12V Pin 25: +12V Pin 1, 3, 5, 11, 20, 21, 40: 0V

  Yes Replace the main board.

- No Do the following voltages are being supplied on the power connector of the engine board?
  Pin 11, 12, 13, 14: +5V Pin 15, 16, 17, 18: +3.3V
  Pin 1: +12V Pin 2: -12V Pin 7, 8, 9, 10: +32V
  Pin 3, 4, 5, 6, 23, 24, 25, 26, 27, 28, 29, 30: 0V

  Yes Replace the engine board.

- No Replace the low-voltage power supply unit.

②-1 Paper input jam (1st tray)

Does the paper reach the FF sensor 1 or 2?

- Yes Remove the paper jam.

  Do the sensor levers (FF sensor 1, FF sensor 2) work right?

  - No Replace the defective sensor lever (FF sensor 1, FF sensor 2).

- Yes Do the sensors (FF sensor 1, FF sensor 2) work right? (Operate each sensor lever and check its signal on the related pin of the FSENS connector of the junction board (PXF-PCB).)
  Pin 1 for FF sensor 1, Pin 4 for FF sensor 2

  - No Check the connection of the signal cable or replace the sensor board (PXM PCB).

- Yes Is the junction board (PXF PCB) operation properly?
  (Operate each sensor lever and check its signal on the related pin of the PXFIF connector of the junction board (PXF-PCB).)
  Pin B8 for FF sensor 1, Pin A7 for FF sensor 2

  - No Replace the junction board (PXF-PCB).

- Yes Check the connection of the connectors between the junction board (PXF PCB) and the engine board (PX4 PCB) or replace the engine board.

No Replace the feed roller or the paper separation frame assembly of the paper cassette.

Is the regist motor rotates properly?

- Yes Replace the feed roller or the paper separation frame assembly of the paper cassette.

No Is the resistance of the regist motor about 7.1 ohms?

- No Replace the regist motor.

Yes Is +32V being supplied on the FU2 of the engine board?

- No Replace the low-voltage power supply.

Yes Check the gear engagement and the connection of the cables or replace the engine board.

②-2 Paper input jam (Front feeder)

- Is the paper jam immediately occur after the page printer is powered on?
  - Yes Is the paper jam occur FF sensor 2?
    - Yes Remove the paper jam.
  - No Ⓐ Do the sensor levers (FF sensor 2) work right?
    - No Replace the defective sensor lever (FF sensor 2).
  - Yes Do the sensor (FF sensor 2) work right? (Operate sensor lever and check its signal on the related pin of the FSENS connector of the junction board (PXF-PCB).)
    Pin 4 for FF sensor 2
    - No Check the connection of the signal cable or replace the sensor board (PXM PCB).
  - Yes Is the junction board (PXF PCB) operation properly?
    (Operate each sensor lever and check its signal on the related pin of the PXFIF connector of the junction board (PXF-PCB).)
    Pin A7 for FF sensor 2
    - No Replace the junction board (PXF-PCB).
  - Yes Check the connection of the cables between the junction board (PXF PCB) and the engine board (PX4 PCB) or replace the engine board.
- No Is the paper jam immediately occur after paper feeding?
  - Yes Does the paper reach the FF sensor 2?
    - Yes Go to Ⓐ.
  - No Replace the front feeder assembly.
- No Does the front feeder motor rotate properly?
  - No Is +32V being supplied on the FU2 of the engine board?
    - No Replace the low-voltage power supply.
  - Yes Check the connection of cables or replace the engine board.
- Yes Check the connection of cables or replace the engine board.

②-3 Paper feed jam

- Is the paper jam immediately occur after the page printer is powered on?
  - Yes Is there jam med paper at the Write sensor?
    - Yes Remove the paper jam.

    Ⓐ
  - No Does the lever of the Write sensor work right?
    - No Replace the lever of Write sensor.
  - Yes Does the Write sensor work right? (Operate the lever of the Write sensor and check its signal on the related pin of the FSENS connector of the junction board (PXF-PCB).)
    Pin 2 for Write sensor
    - No Check the connection of the cable or replace the sensor board (PXM PCB).
  - Yes Is the junction board (PXF PCB) operation properly?
    (Operate the lever of the Write sensor and check its signal on the related pin of the PXFIF connector of the junction board (PXF-PCB).)
    Pin A8 for Write sensor
    - No Replace the junction board (PXF-PCB).
  - Yes Check the connection of the cables between the junction board (PXF PCB) and the engine board (PX4 PCB). Is the connection properly?
    - No Connect the cables properly.
  - Yes Replace the engine board.
- No Is the paper jam immediately occur after paper feeding?
  - Yes Does the paper reach the Write sensor?
    - Yes Go to Ⓐ.
  - No Regist motor rotates?
    - No Is the resistance of the regist motor about 7.1 ohms?
      - No Replace the regist motor.
    - Yes Check the gear engagement or replace the engine board.
  - Yes Replace the resist roller 1 or 2.
- No Is the paper jam occur when paper loading?
  - Yes Is the Belt motor rotates properly?

Ⓑ Ⓒ

Ⓑ Ⓒ

- No Is the resistance of belt motor about 7.1 ohms?
  No Replace the belt motor.
- Yes Check the gear engagement or replace the engine board.

Yes Check the gear engagement or replace the belt cassette Assy.

No Does the leading edge of a paper pass by the Exit sensor?

Yes Is the sensor lever in a normal operation?

- No Replace the defective sensor lever (Exit sensor)

Yes Is the Exit sensor in a normal operation?
(Operate the sensor lever and check its signal on pins land 6 of the RSENS connector of the engine board (PX4-PCB).)

- No Check the connection of the signal cable or replace the sensor board (PXL-PCB).

Yes Replace the engine board (PX4-PCB).

No Replace the engine board (PX4-PCB).

②-4 Paper Exit Jam

- Is the paper jam immediately occur after the page printer is powered on?
  - Yes Is the jammed paper at the Exit sensor?
    - Yes Remove the paper .
    - No Does the sensor lever work correctly?
      - No Replace the defective sensor lever.
      - Yes Does the Exit sensor work correctly? (Operate the sensor lever and check its signal on pins 1 and 6 of the RSENS connector of the engine board (PX4-PCB).)
        - No Check the connection of the signal cable or replace the sensor board (PXL PCB).
        - Yes Replace the engine board.
  - No Is the Faceup stacker open or closed completely?
    - No Open or close the faceup stacker completely.
    - Yes Is the Heat motor rotating properly?
      - No Is the resistance of heater motor about 7.1 ohms?
        - No Replace the heater motor.
        - Yes Is +32V being supplied on the FU2 of the engine board?
          - No Replace the low-voltage power supply.
          - Yes Check the connection of the cables or replace the engine board.
      - Yes Is the Guide paper ejecting Assy work correctly?
        - No Replace the guide paper ejecting Assy.
        - Yes Replace the engine board.

③ Paper Size Error

Is the paper which being used under the specification?

No Use paper which is under the specification.

Yes Is the paper jam med at the Lever regist sensor or the Write sensor?

Yes Remove the paper.

Yes Does the sensor levers (Lever regist sensor) work correctly?

No Replace the defective sensor lever (Lever regist sensor).

Yes Does the sensor (Lever regist sensor) work correctly? (Operate each sensor lever and check its signal on the related pin of the FSENS connector of the junction board (PXF-PCB).
Pin 4 for Lever regist sensor

No Check the connection of the cables or replace the sensor board (PXM-PCB).

Yes Does the Write sensor lever work correctly?

No Replace the Write sensor lever.

Yes Does the Write sensor work correctly? (Operate the sensor lever and check its signal on the related pin of the FSENS connector of the junction board (PXF-PCB).)
Pin 2 for Write sensor

No Check the connection of the cables or replace the sensor board (PXM PCB).

Yes Is the Junction board (PXF PCB) work correctly?
(Operate the Write sensor lever and check its signal on the related pin of the PXFIF connector of the junction board (PXF-PCB).)
Pin A8 for Write sensor

No Replace the junction board (PXF-PCB).

Yes Check the connection of the cables between the junction board (PXF PCB) and the engine board (PX4 PCB) or replace the engine board. Connection correctly?

No Connect the cables correctly.

Yes Replace the engine board.

④ Image Drum Unit (IDU) Up/Down Error

- Turn off power to the page printer, wait a few seconds, then turn on power again.

- Each image drum unit (IDU) motor rotating for printout?

  - No Is the value of IDU motor resistance about 7.1 ohms?

    No Replace the defective IDU motor.

  - Yes Is +32V being supplied on the FU2 of the engine board?

    No Replace the low-voltage power supply.

  - Yes Check the connection of the cables or replace the engine board.

Yes Each IDU sensor lever work correctly?

- No Check the gear engagement and the sensor lever operation or replace the gear or the sensor lever.

Yes Is each IDU sensor work correctly?
(Cover up for each IDU sensor to shut off light and check its signal on the related pin of the PXFI connector of the junction board (PXF PCB).)
Pin B13 for the yellow IDU sensor Pin A13 for the magenta IDU sensor Pin B14 for the cyan IDU sensor Pin A14 for the black IDU sensor

- No Replace the junction board (PXF PCB).

Yes Check the connection of the cables between the junction board (PXF PCB) and the engine board (PX4 PCB) or replace the engine board.

⑤ Fusing Unit Error

- Is the Fusing unit trouble occur immediately after the page printer is powered on?
  - Yes Is Heat roller thermistor open or shorted? (See Figure 6.1.)
    (Normal registance and temperature are about between 90 ohms the 700 ohms at room temperature between 0°C the 43°C)
    - Yes Is the voltage being supplied on pin 8 of the THERM connector of the engine board (PX4 PCB)?
      Normaly Voltage: between 0.03V and 0.25V
      - Yes Replace the engine board.
    - No Replace the fusing unit.
  - No Is Backup roller thermistor open or shorted? (See Figure 6.1.)
    (about 90 ohms to 700 ohms at room temperature 0°C to 43°C)
    - Yes Is the voltage being supplied on Pin4 of the THERM connector of the engine board (PX4 PCB) normal?
      Normaly Voltage: between 0.03V and 0.25V
      - No Replace the engine board.
    - Yes Replace the fusing unit.
  - No
- No Is Fusing unit trouble occur about 3 minutes elapsed after the page printer is powered on?
  - No Go to Ⓐ.
- Yes Is Fusing unit heater turn on? (Is the heater hot?)
  - Yes Is the voltage being supplied on pin 6 of the THERM connector of the engine board (PX4 PCB) normal?
    Rated voltage: 0.03V to 0.25V
    - Yes Replace the engine board.
  - No Replace the fusing unit.
- No Is AC voltage appears between pins 1 and 3 of the CN1 connector of the low-voltage power supply?
  - No Replace the low-voltage power supply.
- Yes Replace the fusing unit.

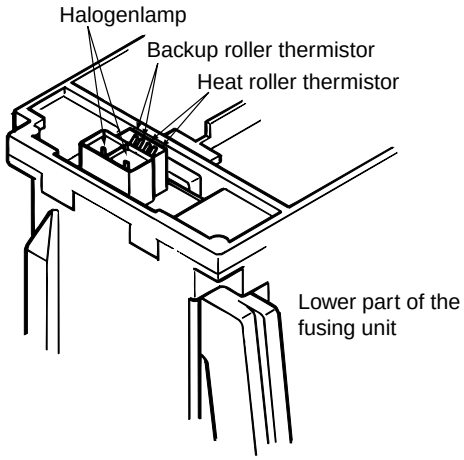


Figure 6.1

⑥ Fan Motor Error

Is the Low-voltage power supply fan rotating after the page printer is powered on?

- No — Is +32V being supplied on the FU2 of the engine board (PX4 PCB)?
  - No — Is +32V being supplied on the power connector of the engine board (PX4 PCB)? 32V: Pin 7, 8, 9, 10
    - No — Check the connection of the cable or replace the low-voltage power supply.
    - Yes — Replace the engine board.
  - Yes — Is the resistance of the low-voltage power supply fan about 700 ohms?
    - No — Replace the fan of the low-voltage power supply.
    - Yes — Check the connection of the cable or replace the low-voltage power supply.
- Yes — Is the Engine board fan rotating after the page printer is powered on again?
  - No — Is +32V being supplied on the FU2 of the engine board (PX4 PCB)?
    - No — Is +32V being supplied on the power connector of the engine board (PX4 PCB)? 32V: Pin 7, 8, 9, 10
      - No — Check the connection of the cable or replace the low-voltage power supply.
      - Yes — Replace the engine board.
    - Yes — Is the resistance of the engine board fan about 800 ohms?
      - No — Replace the fan of the engine board.
      - Yes — Check the connection of the cable or replace the low-voltage power supply.
  - Yes — End

⑦ Cannot Receive Data from Parallel Interface.

Is “PARALLEL I/F” (in menu 1) set to “ENABLE”?

No Set the “PARALLEL I/F” (in menu 1) to “ENABLE.”

Yes Is Parallel interface of the host computer set to “Bidirectional Communication”?

Yes Set the “Bidirectional Communication” of “Parallel Interface” (in menu 2) to “ENABLE.”

No Set the “Bidirectional Communication” of “Parallel Interface” (in menu 2) to “DISABLE.”

Is Data printed out?

Yes End

No Is Parallel interface cable connected correctly?

No Connect the cable correctly.

Yes Check the connection of the parallel interface cable (for wire disconnections or bent pins). Is it recovered?

No Replace the parallel interface cable.

Yes Replace the main board (PCE PCB) or check hardware and software of the host computer.

⑧ Cannot Receive Data from HSP Interface.

Is HSP I/F board connected correctly to the main board (PCE PCB)?

No Connect the HSP I/F board correctly to the main board (PCE PCB).

Yes Is there Any bent or broken pin on the HSP I/F board?

Yes Replace the HSP I/F board.

No Replace the main board.

Repaired?

Yes End

No The HSP I/F board may be not defective. Check the settings of the host computer or the connection of the interface cables and the others.

6.5.3 Image troubleshooting

When the printout images are not satisfactory as shown below, take the troubleshooting steps given in this paragraph.

Printout problem	Reference flowchart No.
Light or blurred images on the whole printout area (Figure 6.2-A)	①
Dirty stained ground (Figure 6.2-B)	②
No printout data on blank paper (Figure 6.2-C)	③
Black stripe or lines in the vertical direction (Figure 6.2-D)	④
White stripe or lines in the vertical direction (Figure 6.2-F)	⑤
Poor fusing (Image are blurred or peeled off when toached with finger)	⑥
Cyclical printout defects (Figure 6.2-E)	⑦
Missing characters or colors	⑧
Poor synthesization Colors	⑨
Printout colors different from original colors	⑩

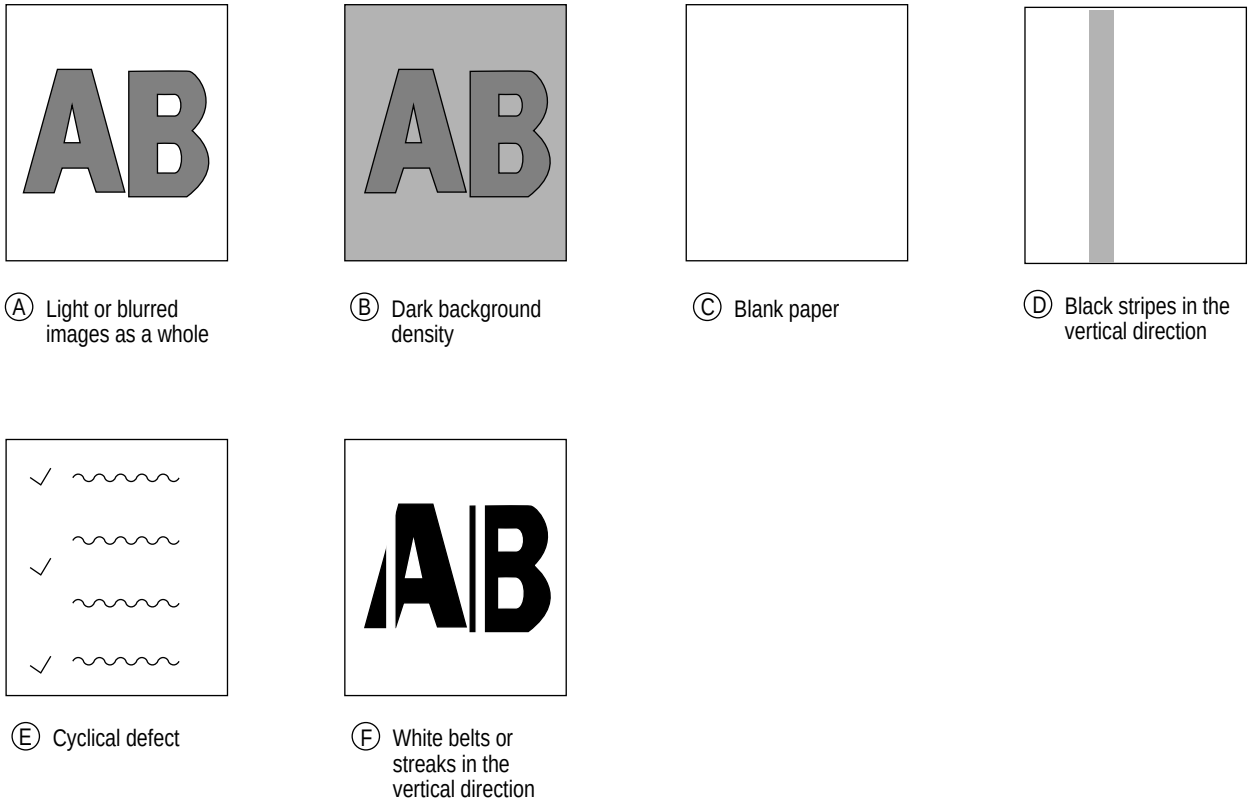

Ⓐ Light or blurred images as a whole
Ⓑ Dark background density
Ⓒ Blank paper
Ⓓ Black stripes in the vertical direction
Ⓔ Cyclical defect
Ⓕ White belts or streaks in the vertical direction

Figure 6.2

① Light or blurred images on the whole printout area

Is toner low? (“TONER LOW” indicator on?)

Yes Supply toner.

No Specified paper?

No Use the specified paper.

Yes Is the lens of the LED head dirty?

Yes Clean the LED head lens.

No Is Each LED head assembly connected correctly to the junction board (PD6 PCB)?

No Check the connection of the cables (between each LED head and the junction board) or connect the LED head cables to the junction board correctly.

Yes Is +3.3V being supplied on the following pins of the HEADPOW connector of the junction board (PD6 PCB)?
+3.3V: Pin 1, 2, 3, 4, 5, 6

Yes Is +3.3V being supplied to each LED head assembly from the junction board (PD6 PCB)?
Pins 1, 2, 3, 4, 5, 6 of the YPOW connector for the yellow LED head assembly
Pins 1, 2, 3, 4, 5, 6 of the MPOW connector for the magenta LED head assembly
Pins 1, 2, 3, 4, 5, 6 of the CPOW connector for the cyan LED head assembly
Pins 1, 2, 3, 4, 5, 6 of the BPOW connector for the black LED head assembly

No Replace the junction board (PD6 PCB).

Yes Check the connection of the cables or replace the LED head assembly.

No Is +3.3V being supplied on the following pins of the HEADPOW connector of the engine board (PX4 PCB)?
+3.3V: Pin 1, 2, 3, 4, 5, 6

Yes Replace the cable.

No Is +3.3V being supplied on the following pins of the POWER connector of the engine board (PX4 PCB)?
+3.3V: Pin 15, 16, 17, 18

Yes Replace the engine board.

No Check the connection of the cables or replace the low-voltage power supply. Recovered?

Yes End

No Is +32V being supplied on the power connector of the engine board (PX4 PCB)?
+32V: Pin 7, 8, 9, 10

No Check the connection of the cables or replace the low-voltage power supply.

Yes Is +32V being supplied on pin 2 of the HVOLT connector of the engine board (PX4 PCB)?

No Replace the engine board.

Ⓐ

Ⓐ

Yes Check the connection of the cables, replace the high-voltage power supply, or belt cassette assembly. Recovered?

Yes End

No Is Each terminal of each image drum unit connected correctly to the contact assembly? (See Figure 6.2.)

No Make the terminals be in contact with the contact assembly correctly.

Yes Replace the the image drum unit.

Notes:
1. When replacing the engine board (PX4 PCB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. After replacing the image drum unit and the belt cassette assembly, be sure to reset their counters in the User Maintenance mode.
3. After replacing the LED head assembly, be sure to adjust its drive time and correct its color deviation.

② Dirty stained ground (Figure 6.2-B)

Each image drum exposed to external lights for a long time?

Yes Replace the image drum unit or put the image drum unit in the printer and close the upper cover and wait for 15min.
Note: After replacing the image drum unit, be sure to reset its counter.

No Is the Roller of the fusing unit (heat roller, oil roller, or cleaning oil roller) contaminated?

Yes Replace the fusing unit or the oil roller assembly.

No Is the setting of “MEDIA TYPE” (in menu 1) correct?
LIGHT:60g/m^2 LIGHT MIDIUM:67.5g/m^2 MEDIUM:75g/m^2 MEDIUM HEAVY:90g/m^2
HEAVY:105g/m^2 ULTRA HEAVY:120g/m^2 TRANSPARENCY:OHP

No Set the “MEDIA TYPE” correctly.

Yes Is the setting of the LED head drive time correct?

No Set the LED head drive time correctly.

No Is Each LED head assembly connected correctly to the junction board (PD6 PCB)?

No Connect the LED assembly correctly to the junction board (PD6 PCB) correctly.

Yes Is +3.3V on the following pins of the HEADPOW connector of the junction board (PD6 PCB) being supplied?
+3.3V: Pin 1, 2, 3, 4, 5, 6

Yes Is +3.3V being supplied on the following pins of the cable connector between the junction board (PD6 PCB) and each LED head assembly?
Pins 1, 2, 3, 4, 5 and 6 of the YPOW connector for the yellow LED head assembly
Pins 1, 2, 3, 4, 5 and6 of the MPOW connector for the magenta LED head assembly
Pins 1, 2, 3, 4, 5 and 6 of the CPOW connector for the cyan LED head assembly
Pins 1, 2, 3, 4, 5 and 6 of the BPOW connector for the black LED head assembly

No Replace the junction board (PD6 PCB).

Yes Check the connection of the cables or replace the LED head assembly.

No Is +3.3V on the following pins of the HEADPOW connector of the engine board (PX4 PCB) being supplied?
+3.3V: Pin 1, 2, 3, 4, 5, 6

Yes Replace the HEADPOW cable.

No Is +3.3V on the following pins of the POWER connector of the engine board (PX4 PCB) being supplied?

Yes Replace the engine board.

No Check the connection of the cables or replace the low-voltage power supply. Recovered?

Yes End

No Is +32V on the power connector of the engine board (PX4 PCB) being supplied?
+32V: Pin 7, 8, 9, 10
Ⓐ

Ⓐ

No Check the connection of the cables or replace the low-voltage power supply.

Yes Is +32V on pin 2 of the HVOLT connector of the engine board (PX4 PCB) being supplied?

No Replace the engine board.

Yes Check the connection of the cables or replace the high-voltage power supply or belt cassette assembly. Recovered?

Yes End

No Is each terminal of each image drum unit connected to the contact assembly correctly? (See Figure 6.2.)

No Make the terminals be in contact with the contact assembly correctly.

Yes Replace the the image drum unit.

Notes:
1. When replacing the engine board (PX4 PCB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. After replacing the image drum unit and the belt cassette assembly, be sure to reset their counters in the User Maintenance mode.
3. After replacing the LED head assembly, be sure to adjust its drive time and correct its color deviation.

③ Void print out

Is each LED head assembly connected to the junction board (PD6 PCB) correctly?

No Check whether or not the connection of the cables or connect the LED assembly to the junction board (PD6 PCB) correctly.

Yes Is +3.3V on the following pins of the HEADPOW connector of the junction board (PD6 PCB) being supplied?
+3.3V: Pin 1, 2, 3, 4, 5, 6

Yes Is +3.3V on the following pins of the cable connector between the junction board (PD6 PCB) and each LED head assembly being supllied?
Pins 1, 2, 3, 4, 5 and 6 of the YPOW connector for the yellow LED head assembly
Pins 1, 2, 3, 4, 5 and 6 of the MPOW connector for the magenta LED head assembly
Pins 1, 2, 3, 4, 5 and 6 of the CPOW connector for the cyan LED head assembly
Pins 1, 2, 3, 4, 5 and 6 of the BPOW connector for the black LED head assembly

No Replace the junction board (PD6 PCB).

Yes Check the connection of the cables or replace the LED head assembly.

No Is +3.3V on the following pins of the HEADPOW connector of the engine board (PX4 PCB) being supplied?
+3.3V: Pin 1, 2, 3, 4, 5, 6

Yes Replace the HEADPOW cable.

No Is +3.3V on the following pins of the POWER connector of the engine board (PX4 PCB) being supplied?
+3.3V: Pin 15, 16, 17, 18

Yes Replace the engine board.

No Check the connection of the cables or replace the low-voltage power supply. Is the problem recovered?

Yes End

No Is +32V on the power connector of the engine board (PX4 PCB) being supplied?
+32V: Pin 7, 8, 9, 10

No Check the connection of the cables or replace the low-voltage power supply.

Yes Is +32V on pin 2 of the HVOLT connector of the engine board (PX4 PCB) being supplied?

No Replace the engine board.

Yes Check the connection of the cables or replace the high-voltage power supply or belt cassette assembly. Recovered?

Yes End

Ⓐ

Ⓐ

No Is each terminal of each image drum unit connected to the contact assembly correctly? (See Figure 6.2.)

No Make the terminals be in contact with the contact assembly correctly.

Yes Replace the the image drum unit.

Notes: 1. When replacing the engine board (PX4 PCB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. After replacing the image drum unit and the belt cassette assembly, be sure to reset their counters in the User Maintenance mode.
3. After replacing the LED head assembly, be sure to adjust its drive time and correct its color deviation.

④ Black stripe or lines in the vertical direction

Is each LED head assembly connected to the junction board (PD6 PCB) correctly?

No — Connect the LED head assembly to the junction board correctly.

Yes — Check the connection of the cables or replace the LED head assembly. Is the problem recovered?

Yes — End

No — Check the connection of the cables or replace the junction board (PD6 PCB). Recovered?

Yes — End

No — Is engine board (PX4 PCB) connected to the junction board (PD6 PCB) correctly?

No — Connect the engine board to the junction board correctly.

Yes — Check the connection of the cables or replace the engine board (PX4 PCB). Is the problem recovered?

Yes — End

No — Is Each terminal of each image drum unit connected to the contact assembly correctly? (See Figure 6.2.)

No — Make the terminals be in contact with the contact assembly correctly.

Yes — Replace the the image drum unit.

Notes:
1. When replacing the engine board (PX4 PCB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. After replacing the image drum unit, be sure to reset its counter in the User Maintenance mode.
3. After replacing the LED head assembly, be sure to adjust its drive time and correct its color deviation.

⑤ White stripe or lines in the vertical direction

Is each LED head lens contaminated?

Yes Clean the LED head lens.

No Is each LED head assembly connected to the junction board (PD6 PCB) correctly?

No Connect the LED head assembly to the junction board (PD6 PCB) correctly.

Yes Check the connection of the cables or replace the LED head assembly. Is the problem recovered?

Yes End

No Check the connection of the cables or replace the junction board (PD6 PCB). Is the problem recovered?

Yes End

No Is engine board (PX4 PCB) connected to the junction board correctly?

No Connect the boards correctly.

Yes Check the connection of the cables or replace the engine board (PX4 PCB). Is the problem recovered?

Yes End

No Is each terminal of each image drum unit connected to the contact assembly correctly? (See Figure 6.2.)

No Make the terminals be in contact with the contact assembly correctly.

Yes Replace the the image drum unit.

Notes:
1. When replacing the engine board (PX4 PCB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. After replacing the image drum unit, be sure to reset its counter in the User Maintenance mode.
3. After replacing the LED head assembly, be sure to adjust its drive time and correct its color deviation.

⑥ Poor Fusing (Image are blurred or peeled off when touched with finger.)

Is the paper under specification being used?

No Use the paper under the specification.

Yes Is contacts of the fusing unit assembly connected correctly?

No Connect the contacts correctly.

Yes Are there any rollers of the fusing unit (heat roller, oil roller, or cleaning oil roller) contaminated?

Yes Replace the fusing unit assembly or oil roller assembly.

No Is the setting of “MEDIA TYPE” (in menu 1)correctly?
LIGHT:60g/m^2 LIGHT MIDIUM:67.5g/m^2 MEDIUM:75g/m^2 MEDIUM HEAVY:90g/m^2
HEAVY:105g/m^2 ULTRA HEAVY:120g/m^2 TRANSPARENCY:OHP

No Set the “MEDIA TYPE” correctly.

Yes Is AC voltage between pin 1 and 3 of the CN1 connector of the low-voltage power supply being supplied?

No Replace the low-voltage power supply.

Yes Is resistance range of the heat roller thermistor under the regulation? (See Figure 6.1.) (It's about between 90 ohms and 700 ohms at room temperature of 0°C to 43°C)

No Replace the fusing unit assembly.

Yes Is resistance range of the backup roller thermistor under the regulation? (See Figure 6.1.) (It's about between 90 ohms and 700 ohms at room temperature of 0°C to 43°C)

No Replace the fusing unit assembly.

Yes Is the signal THERM1 on pin 6 of the THERM connector of the engine board (PX4 PCB) in the following range?
LIGHT and LIGHT MEDIUM:2.8V~3.5V MEDIUM:3.1V~3.8V
MEDIUM HEAVY:3.1V~3.9V HEAVY:3.4V~4V
ULTRA HEAVY:3.4V~4.1V TRANSPARENCY default value:3.4V~4V

No Replace the fusing unit assembly.

Yes Replace the fusing unit assembly.

Notes: 1. When replacing the engine board (PX4 PCB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. After replacing the image drum unit, the fusing unit, and the belt cassette assembly, be sure to reset their counters in the User Maintenance mode.
3. After replacing the LED head assembly, be sure to adjust its drive time and correct its color deviation.

⑦ Cyclical printout defects (Figure 6.2-E)

Possibly defective part		Repairing
94.2 mm	Image Drum	Replace the image drum unit.
44.0 mm	Developing Rooler	Replace the image drum unit.
28.3 mm	Toner Supply Rooler	Replace the image drum unit.
28.3 mm	Charging Roller	Replace the image drum unit.
114 mm	Heat Roller	Replace the fusing unit assembly.
114 mm	Back-up Roller	Replace the fusing unit assembly.
47.1 mm	Transfer Roller	Replace the belt cassette assembly.

Note: After replacing the image drum unit the fusing unit and the belt cassette assembly, be sure to reset their counters in the User Maintenance mode.

⑧ Missing characters or synthesization colors

Is each LED head lens contaminated?

Yes Clean the lens of LED head.

No Is each LED head assembly connected to the junction board (PD6 PCB) correctly?

No Check the connection of the cables (between each LED head and the junction board) or connect the LED head cables to the junction board correctly.

Yes Is +3.3V on the following pins of the HEADPOW connector of the junction board (PD6 PCB) being supplied?
+3.3V: Pin 1, 2, 3, 4, 5, 6

Yes Is +3.3V being supplied to each LED head assembly from the junction board (PD6 PCB)?
Pins 1, 2, 3, 4, 5 and 6 of the YPOW connector for the yellow LED head assembly
Pins 1, 2, 3, 4, 5 and 6 of the MPOW connector for the magenta LED head assembly
Pins 1, 2, 3, 4, 5 and 6 of the CPOW connector for the cyan LED head assembly
Pins 1, 2, 3, 4, 5 and 6 of the BPOW connector for the black LED head assembly

No Replace the junction board (PD6 PCB).

Yes Check the connection of the cables or replace the LED head assembly.

No Is +3.3V on the following pins of the HEADPOW connector of the engine board (PX4 PCB) being supplied?
+3.3V: Pin 1, 2, 3, 4, 5, 6

Yes Replace the HEADPOW cable.

No Is +3.3V being supplied on the following pins of the POWER connector of the engine board (PX4 PCB)?
+3.3V: Pin 15, 16, 17, 18

Yes Replace the engine board.

No Check the connection of the cables or replace the low-voltage power supply. Is the problem recovered?

Yes End

No Is +32V on the power connector of the engine board (PX4 PCB) being supplied?
+32V: Pin 7, 8, 9, 10

No Check the connection of the cables or replace the low-voltage power supply.

Yes Is +32V on pin 2 of the HVOLT connector of the engine board (PX4 PCB) being supplied?

No Replace the engine board.

Yes Check the connection of the cables, replace the high-voltage power supply or belt cassette assembly. Is the problem recovered?

Yes End

No Is each terminal of each image drum unit connected to the contact assembly correctly? (See Figure 6.3.)

Ⓐ

Ⓐ

No Make the terminals be in contact with the contact assembly correctly.

Yes Replace the the image drum unit.

Notes: 1. When replacing the engine board (PX4 PCB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. After replacing the image drum unit and the belt cassette assembly, be sure to reset their counters in the User Maintenance mode.
3. After replacing the LED head assembly, be sure to adjust its drive time and correct its color deviation.

⑨ Poor synthesization Colors

Correct color deviations of each LED head by “COLOR REG ADJUST EXECUTE.” Is the problem recoverd?

Yes End

No Are there any gear broken of the unit (Image drum unit gear assembly, front feeder assembly, belt unit assembly or belt motor assembly, etc.)?

Yes Replace the broken gear assembly.

No Is each LED head unit connected to the junction board (PD6 PCB) correctly?

No Connect the boards correctly.

Yes Check the connection of the cables or replace the LED head assembly. Is the problem recovered?

Yes End

No Check the connection of the cables or replace the junction board (PD6 PCB). Is the problem recovered?

Yes End

No Is engine board (PX4 PCB) connected to the junction board (PD6 PCB) correctly?

No Connect the boards correctly.

Yes Check the connection of the cables or replace EEPROM of the engine board. Is the problem recovered?

Yes End

No Replace the engine board. Recovered?

Yes End

No Is each terminal of each image drum unit connected to the contact assembly correctly? (See Figure 6.3.)

No Make the terminals be in contact with the contact assembly correctly.

Yes Replace the the image drum unit.

Notes: 1. When replacing the engine board (PX4 PCB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. After replacing the image drum unit, be sure to reset its counter in the User Maintenance mode.
3. After replacing the LED head assembly, be sure to adjust its drive time and correct its color deviation.

⑩ Printout colors different from original colors

Is each LED head lens contaminated?

Yes Clean the LED head lens.

No Is each LED head assembly connected to the junction board (PD6 PCB) correctly?

No Check the connection of the cables (between each LED head and the junction board) or connect the LED head cables to the junction board correctly.

Yes Is +3.3V on the following pins of the HEADPOW connector of the junction board (PD6 PCB) being supplied?
+3.3V: Pin 1, 2, 3, 4, 5, 6

Yes Is +3.3V being supplied to each LED head assembly from the junction board (PD6 PCB)?
Pins 1, 2, 3, 4, 5 and 6 of the YPOW connector for the yellow LED head assembly
Pins 1, 2, 3, 4, 5 and 6 of the MPOW connector for the magenta LED head assembly
Pins 1, 2, 3, 4, 5 and 6 of the CPOW connector for the cyan LED head assembly
Pins 1, 2, 3, 4, 5 and 6 of the BPOW connector for the black LED head assembly

No Replace the junction board (PD6 PCB).

Yes Check the connection of the cables or replace the LED head assembly.

No Is +3.3V on the following pins of the HEADPOW connector of the engine board (PX4 PCB) being supplied?
+3.3V: Pin 1, 2, 3, 4, 5, 6

Yes Replace the HEADPOW cable.

No Is +3.3V on the following pins of the POWER connector of the engine board (PX4 PCB) being supplied?
+3.3V: Pin 15, 16, 17, 18

Yes Replace the engine board.

No Check the connection of the cables or replace the low-voltage power supply. Is the problem recovered?

Yes End

No Is +32V on the power connector of the engine board (PX4 PCB) being supplied?
+32V; Pin 7, 8, 9, 10

No Check the connection of the cables or replace the low-voltage power supply.

Yes Is +32V on pin 2 of the HVOLT connector of the engine board (PX4 PCB) being supplied?

No Replace the engine board.

Yes Check the connection of the cables, replace the high-voltage power supply or belt cassette assembly. Is the problem recovered?

Yes End

No Is Each terminal of each image drum unit connected to the contact assembly correctly? (See Figure 6.3.)

Ⓐ

Ⓐ

No Make the terminals be in contact with the contact assembly correctly.

Yes Replace the the image drum unit.

Notes:
1. When replacing the engine board (PX4 PCB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. After replacing the image drum unit and the belt cassette assembly, be sure to reset their counters in the User Maintenance mode.
3. After replacing the LED head assembly, be sure to adjust its drive time and correct its color deviation.

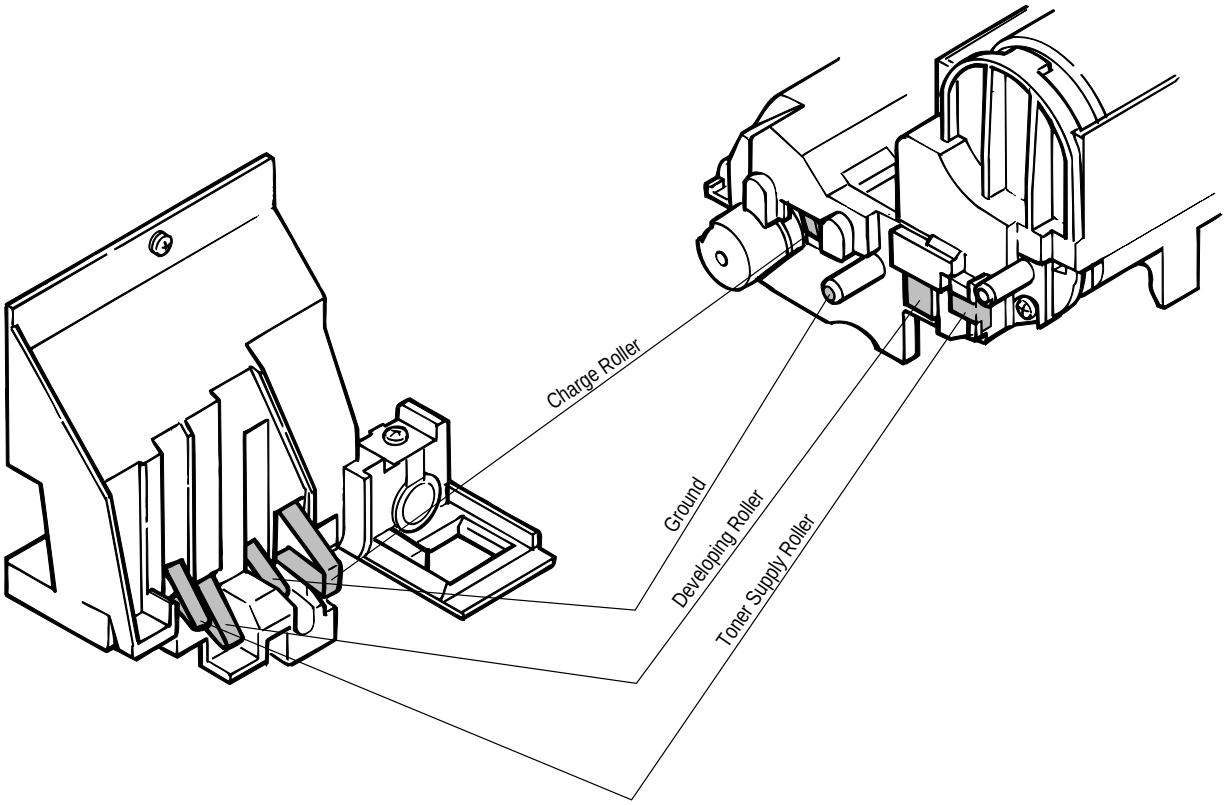
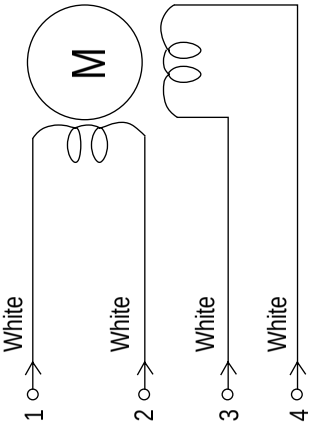
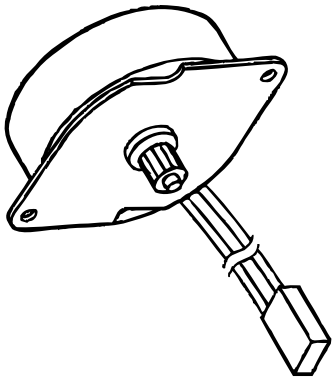
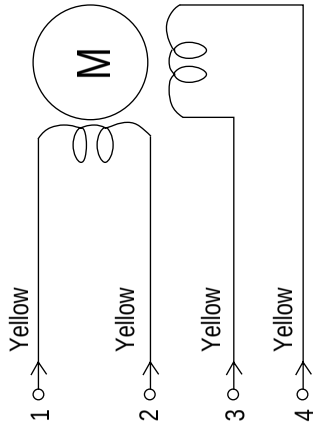
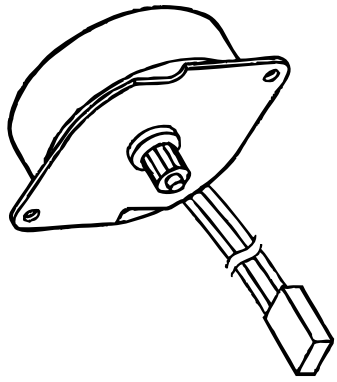
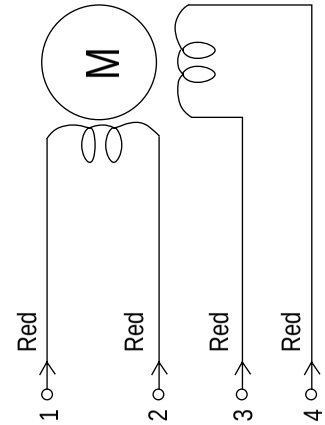
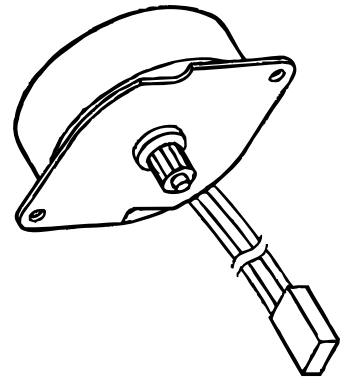
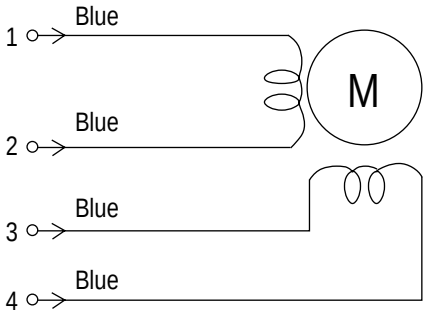
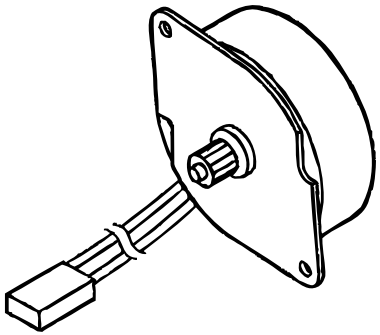
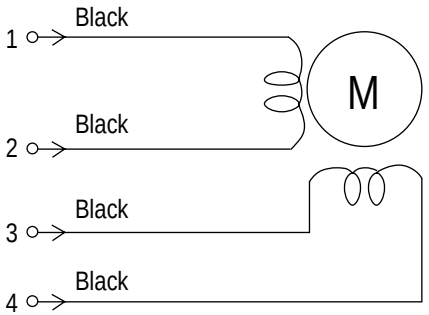
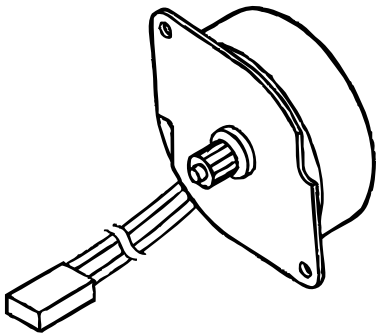
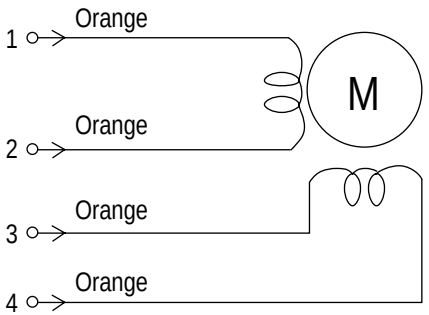
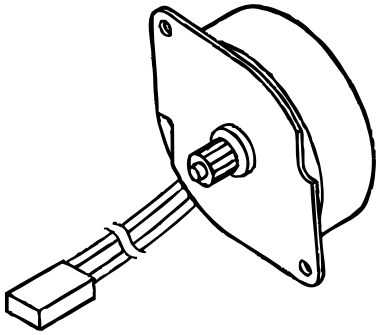

Charge Roller
Ground
Developing Roller
Toner Supply Roller

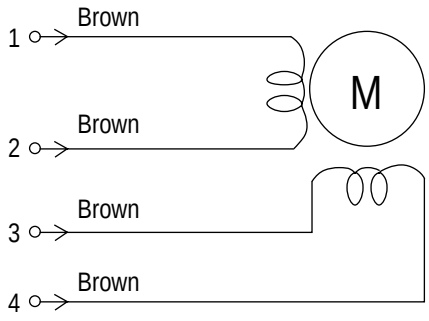
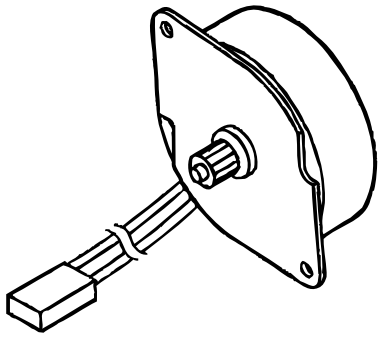
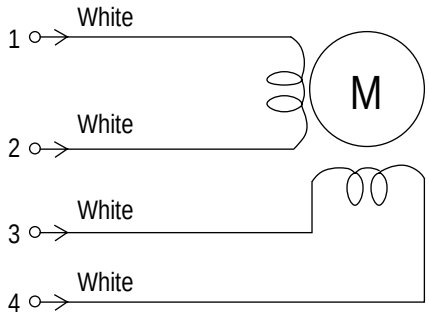
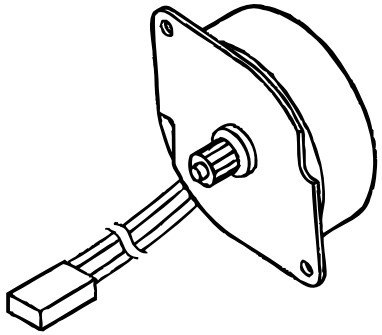
Figure 6.3

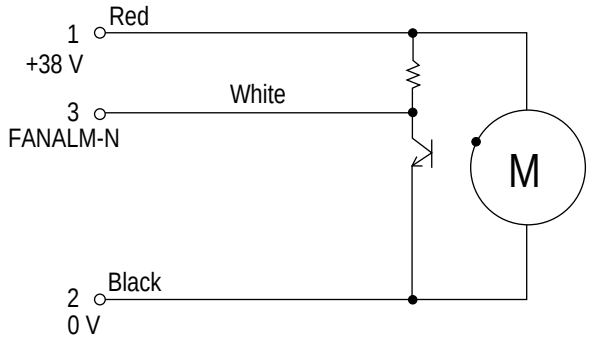
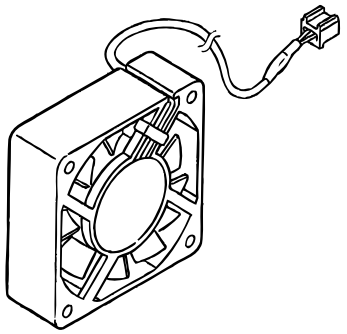
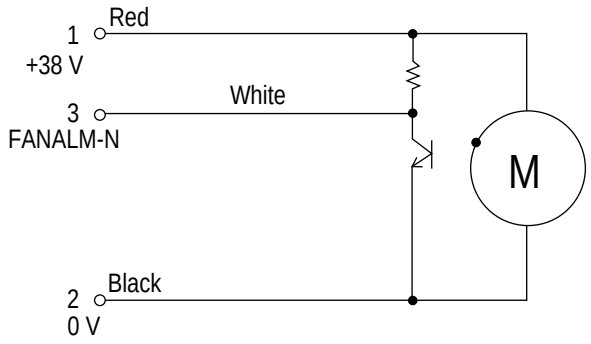
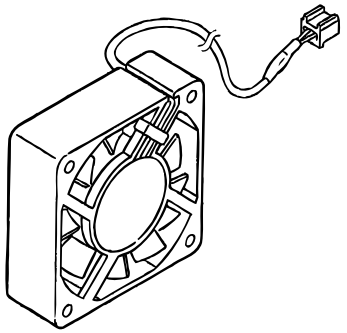
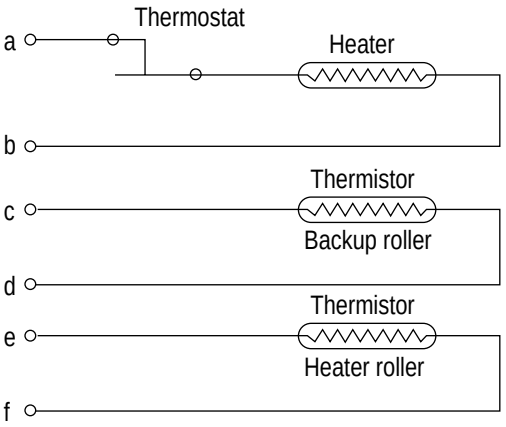
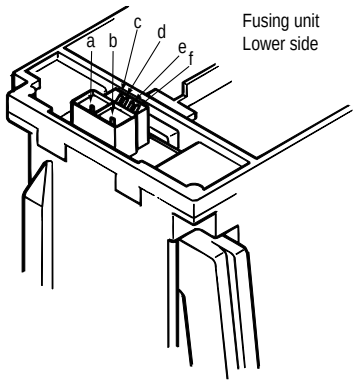
7. WIRING DIAGRAM

7.1 Resistance Check

Unit	Circuit Diagram	Illustration	Resistance
Belt motor			Between pins 1 and 2: 7.1Ω Between pins 3 and 4: 7.1Ω
YIDU motor			Between pins 1 and 2: 7.1Ω Between pins 3 and 4: 7.1Ω
MIDU motor			Between pins 1 and 2: 7.1Ω Between pins 3 and 4: 7.1Ω

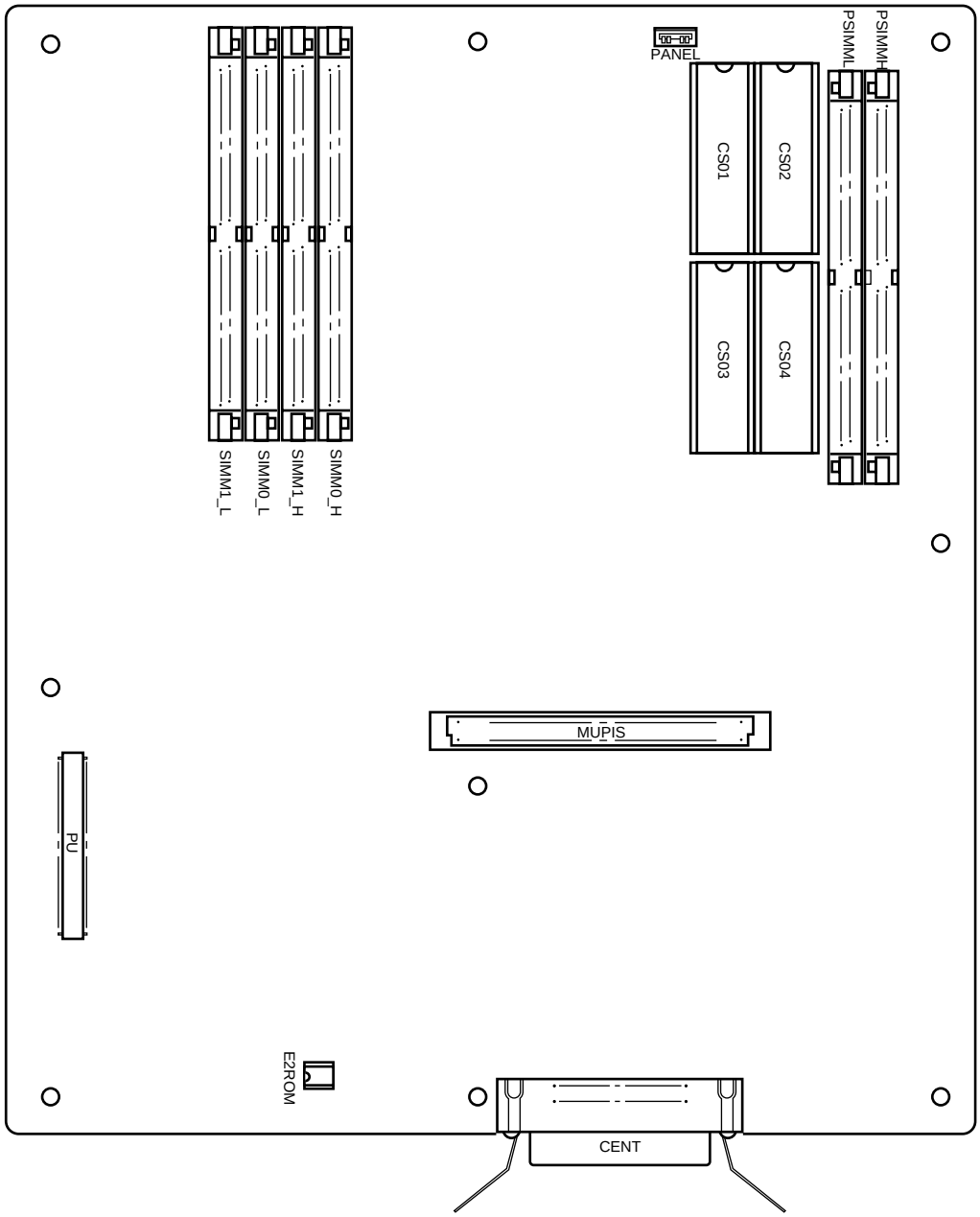
Unit	Circuit Diagram	Illustration	Resistance
CIDU motor			Between pins 1 and 2: 7.1Ω Between pins 3 and 4: 7.1Ω
BIDU motor			Between pins 1 and 2: 7.1Ω Between pins 3 and 4: 7.1Ω
Resist motor			Between pins 1 and 2: 7.1Ω Between pins 3 and 4: 7.1Ω

Unit	Circuit Diagram	Illustration	Resistance
Heater motor			Between pins 1 and 2: 7.1Ω Between pins 3 and 4: 7.1Ω
FF motor			Between pins 1 and 2: 7.1Ω Between pins 3 and 4: 7.1Ω

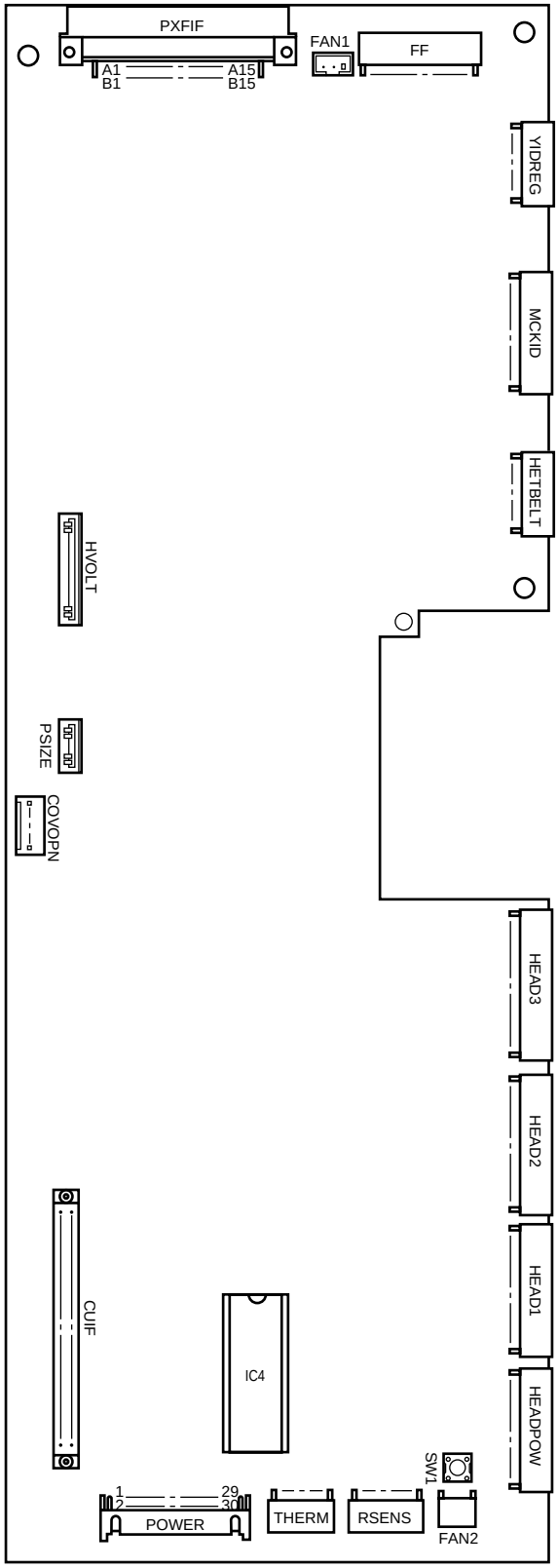
Unit	Circuit Diagram	Illustration	Resistance
Fan 1 (To: Low Power supply)			
Fan 2 (To: PX4-PCB)			
Fusing Unit			Between pins c and d: 205kΩ (at 25°C) Between pins e and f: 205kΩ (at 25°C) Between pins a and b: 2.3Ω (120V, at 25°C) 8.5Ω (240V, at 25°C)

7.2 Program/Font ROM Location

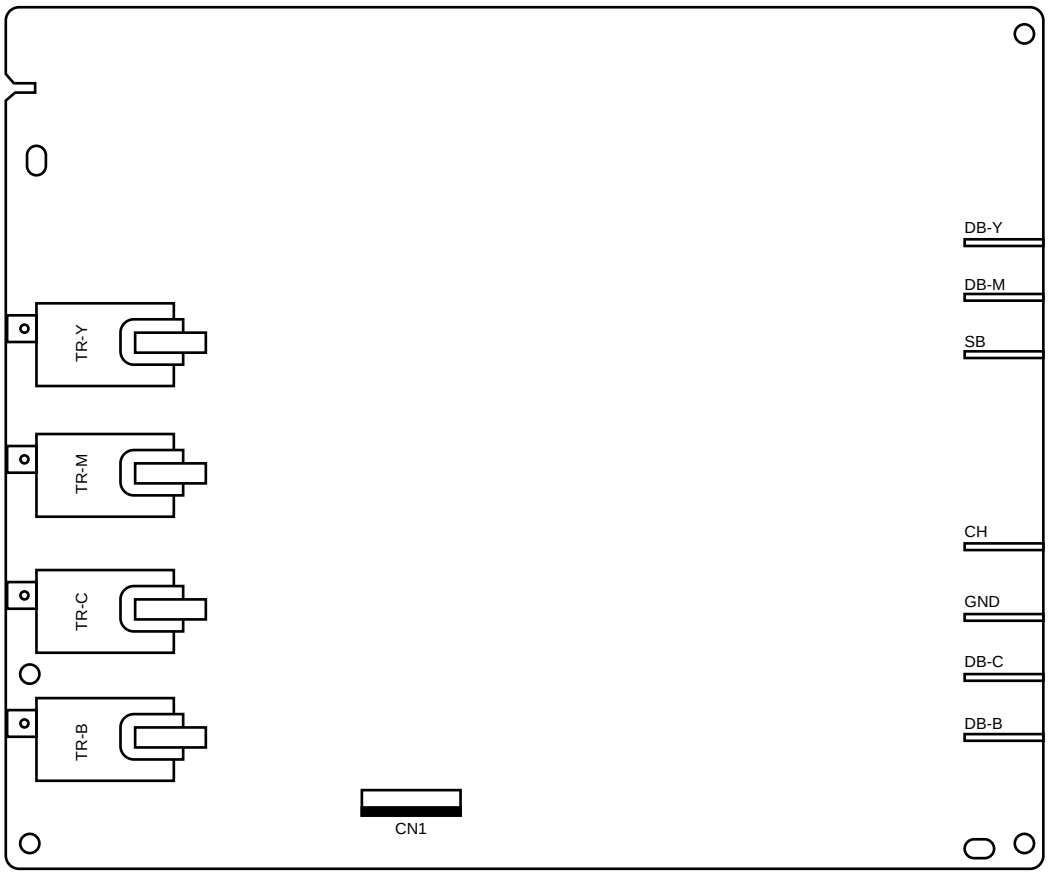
(1) PCE-PCB



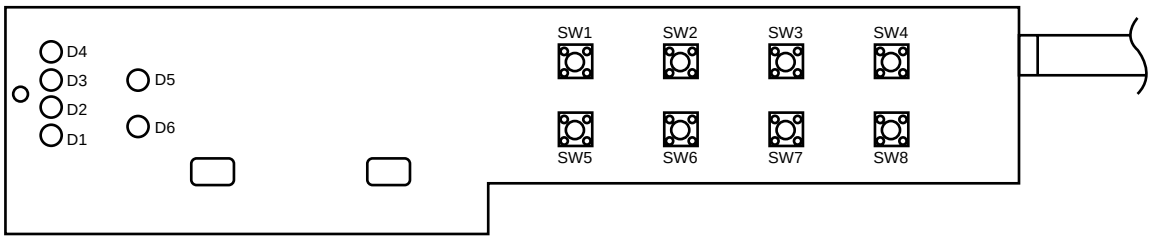
(2) PX4-PCB


PXFIF
A1
B1
A15
B15
FAN1
FF
YIDREG
MCKID
HETBELT
HVOLT
PSIZE
COVOPN
HEAD3
HEAD2
HEAD1
HEADPOW
CUIF
IC4
SW1
1
2
29
30
POWER
THERM
RSENS
FAN2

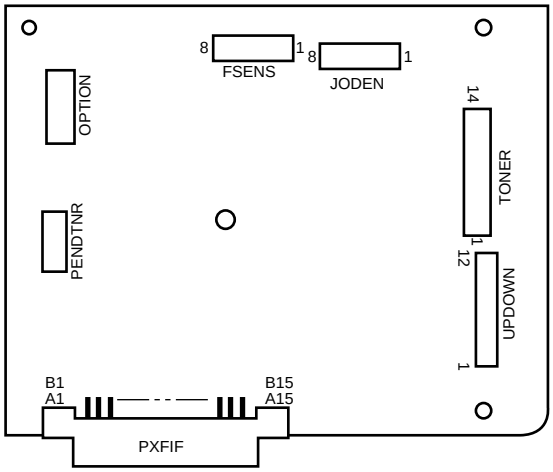
(3) Power-Supply PCB



(4) PCO PCB



(5) PXF PCB


8
1
FSENS
8
1
JODEN
OPTION
PENDTNR
14
1
TONER
12
1
UPDOWN
B1
A1
B15
A15
PXFIF

8. Parts List

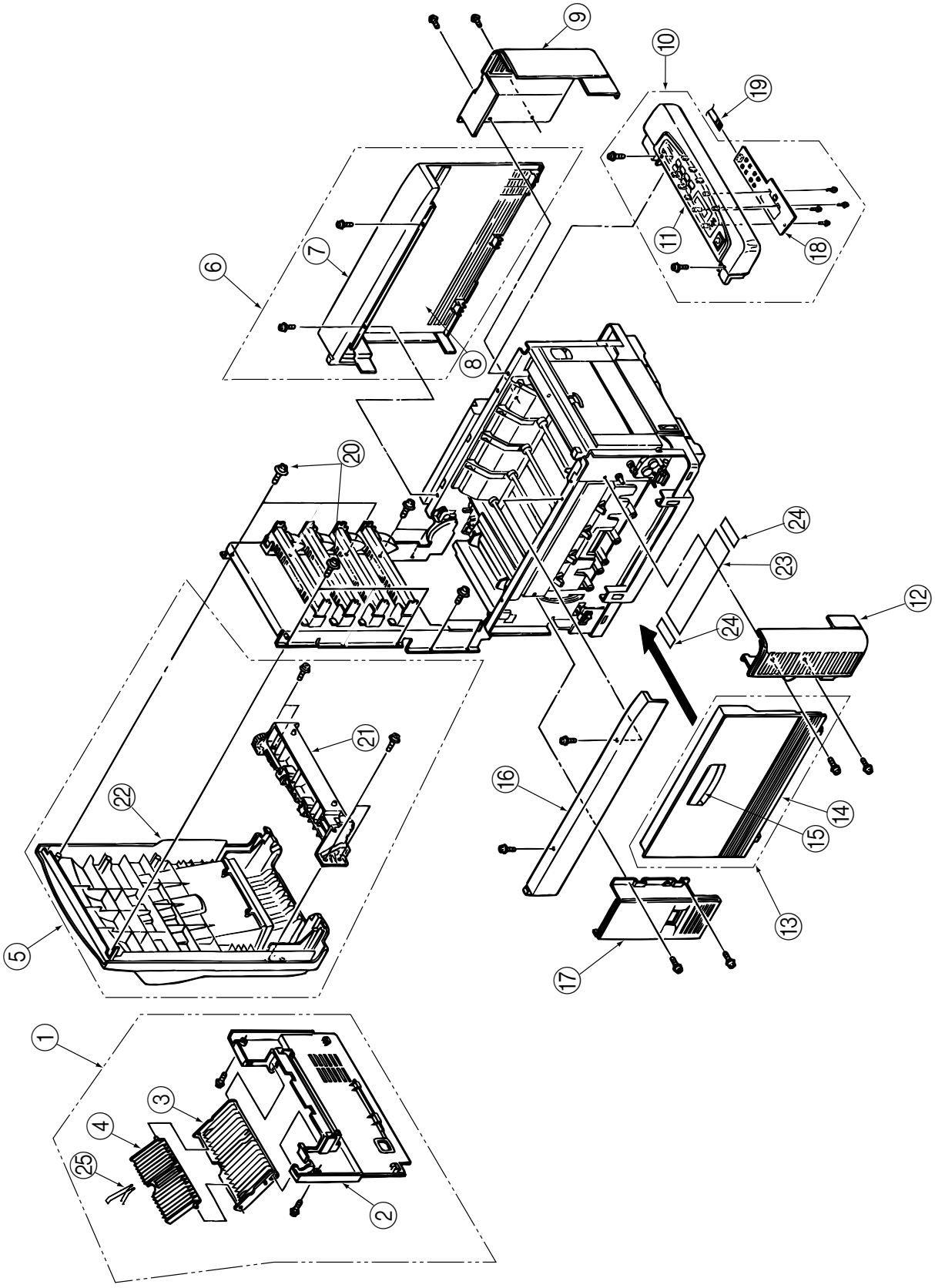
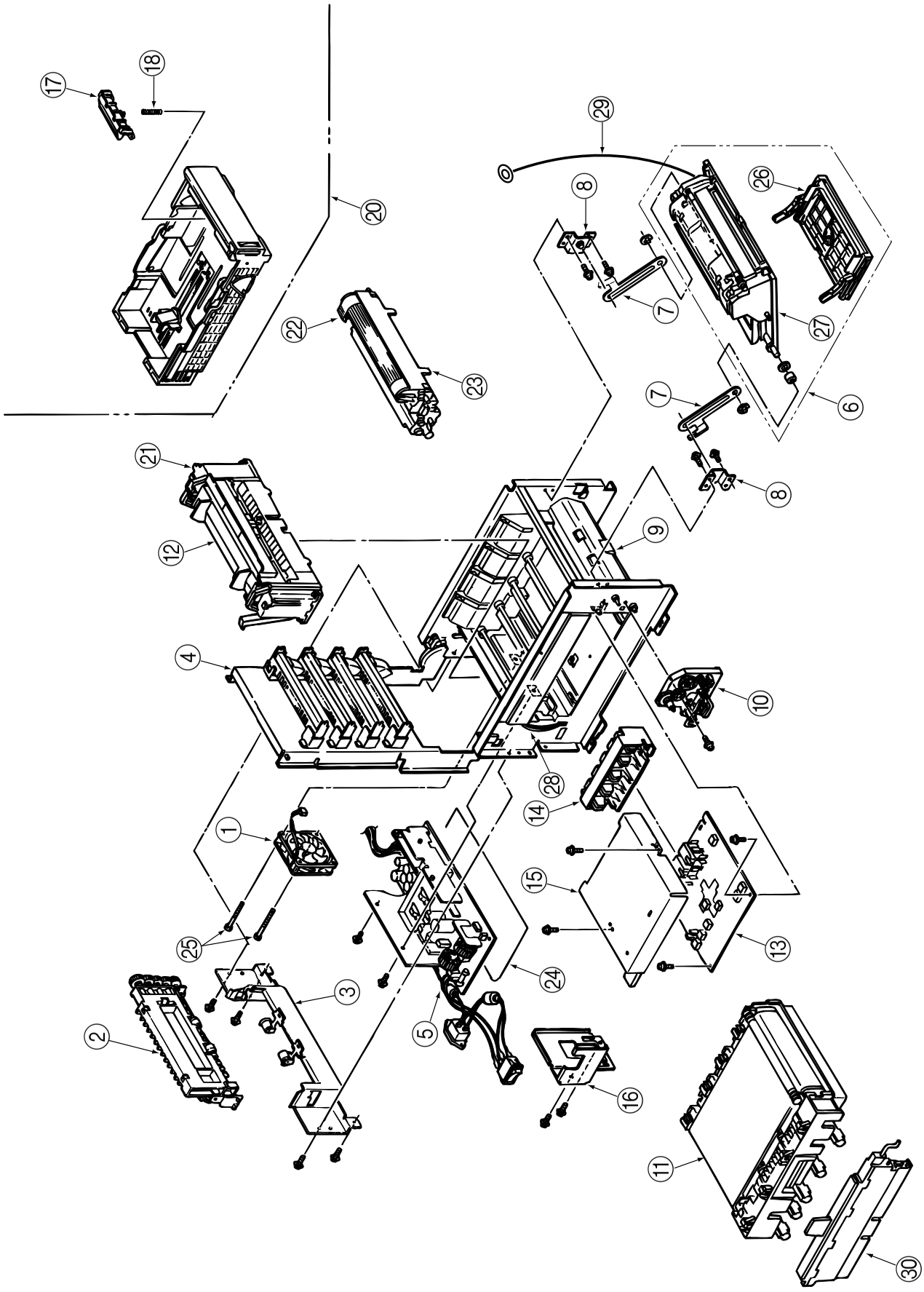


Fig.8-1

Table.8-1

No.	Parts No.	Name	Q'ty/U	Reccomended Q'ty			Remarks
				500	1000	2000	
1	40315201	Cover_Assy_Rear	1	3	6	12	
2	40098401	Cover_Rear	1	3	6	12	
3	40187501	Stacker_Faceup	1	3	6	12	
4	40187601	Support_Stacker	1	3	6	12	
5	40314801	Cover_Assy_Stacker	1	3	6	12	
6	40315001	Cover_Assy_Side (R)	1	3	6	12	
7	-	Cover_Side (R)	-	-	-	-	
8	-	Frame_Side (R)	-	-	-	-	
9	40098301	Cover_Front (R)	1	3	6	12	
10	40314905	Cover_Assy_OP_Panel	1	3	6	12	ODA(120V)
	40314906	Cover_Assy_OP_Panel	1	3	6	12	OEL/INT(230V)
11	40492603	Cover_Sub_Assy_OP_Panel	1	3	6	12	OEL/INT
	40492604	Cover_Sub_Assy_OP_Panel	1	3	6	12	ODA
12	40098201	Cover_Front (L)	1	3	6	12	
13	40315101	Cover_Assy_Side (L)	1	3	6	12	
14	-	Cover_Side (L)	-	-	-	-	
15	-	Cover_Knob	-	-	-	-	
16	40195601	Frame_Side (L)	1	3	6	12	
17	40195701	Cover_Rear (L)	1	3	6	12	
18	40387201	Board-PCO	1	3	6	12	
19	40919301	Connection Code Sumi Cord Assy	1	3	6	12	
20	4PB4083-5670P001	Screw	4	12	24	48	
21	40303601	Guide_Eject_FD_Assy	1	3	6	12	
22	40449901	Cover_Sub_Assy_Stacker	1	3	6	12	
23	40728601	Film_Waste_Toner	1	3	6	12	
24	40728701	Foam-Seal (Cover)	2	6	12	24	
25	40664701	Spring-Support (FU)	1	3	6	12	


17
18
20
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26
22
23
7
27
7
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21
12
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4
10
28
14
1
15
25
13
24
3
5
2
16
11
30

Fig.8-2

Table.8-2

No.	Parts No.	Name	Q'ty/U	Reccomended Q'ty			Remarks
				500	1000	2000	
1	40255201	Motor_Fan(80-25)	1	3	6	12	
2	40303501	Frame_Eject_Assy	1	3	6	12	
3	40303401	Guide_Paper_Eject_Assy	1	3	6	12	
4	40410701	Frame_Upper_Assy	1	3	6	12	See Fig.8-8
5	40018901	Power_Unit_ACDC_Switching	1	3	6	12	ODA(120V)
	40019001	Power_Unit_ACDC_Switching	1	3	6	12	OEL/ODA(230V)
6	40311201	FDR_Unit__Front	1	3	6	12	
7	40193501	Plate_FF_Link	2	6	12	24	
8	40193601	Bracket_FF_Link	2	6	12	24	
9	40303301	Guide_Paper_Input_Assy	1	3	6	12	
10	40309801	Holder_Gear_Toner_Assy	1	3	6	12	
11	40490801	Belt_Unit	1	3	6	12	Replacement Kit (ODA)
	40490802	Belt_Unit	1	3	6	12	Replacement Kit (OEL/INT)
12	40645301	Oil_Roller_Unit	1	-	-	-	Consumable: ODA
	40645302	Oil_Roller_Unit	1	-	-	-	Consumable: OEL/INT
13	40065601	High_Voltage_Power_Supply	1	3	6	12	
14	40325001	Bracket_HV(BT)_Assy	1	3	6	12	
15	40168001	Plate_HV	1	3	6	12	
16	40193201	Holder_Innret	1	3	6	12	
17	40607101	Separator_Frame_Assy	1	3	6	12	
18	41179801	Separation_Spring	1	3	6	12	
19							
20	40744401	Paper_Cassette_Assy	1	3	6	12	
21	40490901	Fuser_Unit	1	3	6	12	Replacement_Unit: ODA(120V)
	40490902	Fuser_Unit	1	3	6	12	Replacement_Unit: (OEL/INT)
	40490904	Fuser_Unit	1	3	6	12	Replacement_Unit: ODA(230V)
22	41012301	Toner_Cartridge_BK	1	-	-	-	Consumable: ODA
	41012302	Toner_Cartridge_Y	1	-	-	-	Consumable: ODA
	41012303	Toner_Cartridge_M	1	-	-	-	Consumable: ODA
	41012304	Toner_Cartridge_C	1	-	-	-	Consumable: ODA
	41012305	Toner_Cartridge_BK	1	-	-	-	Consumable: OEL
	41012306	Toner_Cartridge_Y	1	-	-	-	Consumable: OEL
	41012307	Toner_Cartridge_M	1	-	-	-	Consumable: OEL
	41012308	Toner_Cartridge_C	1	-	-	-	Consumable: OEL
	41012309	Toner_Cartridge_BK	1	-	-	-	Consumable: INT
	41012310	Toner_Cartridge_Y	1	-	-	-	Consumable: INT
	41012311	Toner_Cartridge_M	1	-	-	-	Consumable: INT
	41012312	Toner_Cartridge_C	1	-	-	-	Consumable: INT

No.	Parts No.	Name	Q'ty/U	Reccomended Q'ty			Remarks
				500	1000	2000	
23	41070201	ID_Unit_C6C_ODAEPCFGI-BK	1	-	-	-	Consumable: ODA(120V)
	41070202	ID_Unit_C6C_ODAEPCFGI-YM	1	-	-	-	Consumable: ODA(120V)
	41070203	ID_Unit_C6C_ODAEPCFGI-MM	1	-	-	-	Consumable: ODA(120V)
	41070204	ID_Unit_C6C_ODAEPCFGI-CM	1	-	-	-	Consumable: ODA(120V)
	41070205	ID_Unit_C6C_OELEPCFGI-BK	1	-	-	-	Consumable: OEL(230V)
	41070206	ID_Unit_C6C_OELEPCFGI-YM	1	-	-	-	Consumable: OEL(230V)
	41070207	ID_Unit_C6C_OELEPCFGI-MM	1	-	-	-	Consumable: OEL(230V)
	41070208	ID_Unit_C6C_OELEPCFGI-CM	1	-	-	-	Consumable: OEL(230V)
24	40191201	Sheet_Insuration	1	3	6	12	
25	PSW2W3-30C	Screw	2	6	12	24	
26	40838801	Manual_Hopper_Assy	1	3	6	12	
27	40449001	FDR_Unit_Main_Assy	1	3	6	12	
28	40294201	CONN_Cord_Wire	1	3	6	12	
29	40641801	CONN_Cord_Wire	1	3	6	12	
30	40645401	Waste_Toner_Box	1	3	6	12	Consumable(ODA)
	40645402	Waste_Toner_Box	1	3	6	12	Consumable(OEL/INT)

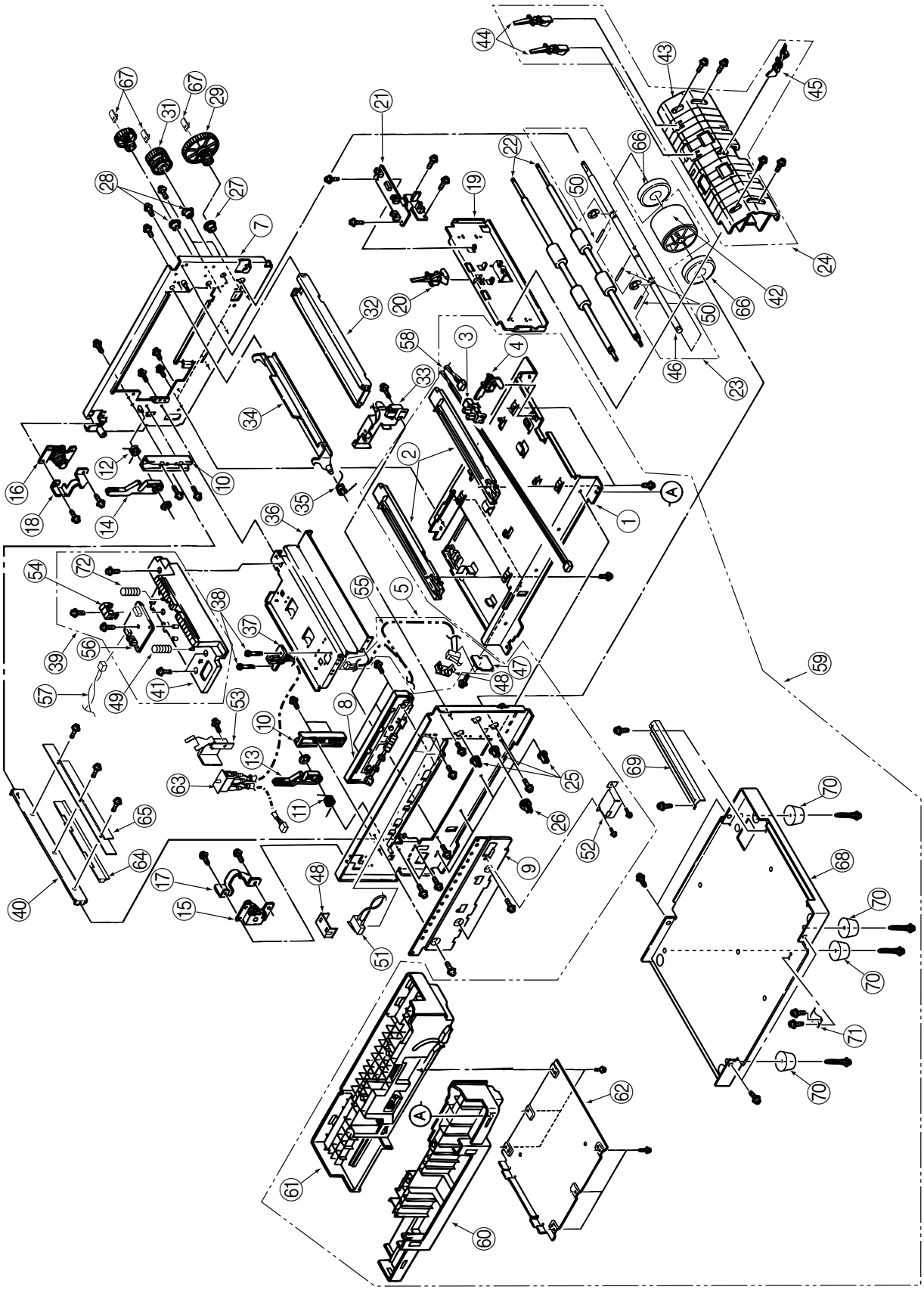

Fig.8-3

Table.8-3

No.	Parts No.	Name	Q'ty/U	Reccomended Q'ty			Remarks
				500	1000	2000	
1	40175701	Plate_Base	1	3	6	12	
2	40096401	Guide_Belt(F)	2	6	12	24	
3	40135301	Photo_Interrupter	1	3	6	12	
4	4PP4076-5154P001	Lever_Paper_End	1	3	6	12	
5	40450401	Sensor_Assy_Box_Toner	1	3	6	12	
6	40171401	Frame_Side(L)	1	3	6	12	
7	40171301	Frame_Side(R)	1	3	6	12	
8	40308801	Contact_SB_Assy	1	3	6	12	
9	40290201	Plate_Blind	1	3	6	12	
10	40163401	Guide_Side_Heatunit	2	6	12	24	
11	40163701	Spring_Lock(L)	1	3	6	12	
12	40835001	Spring_Lock_Heat	1	3	6	12	
13	40163501	Lever_Lock_Heatunit(L)	1	3	6	12	
14	40163601	Lever_Lock_Heatunit(R)	1	3	6	12	
15	40383701	Limiter-2Way(L)	1	3	6	12	
16	40383801	Limiter-2Way(R)	1	3	6	12	
17	40335001	Plate_Guard(L)	1	3	6	12	
18	40335101	Plate_Guard(R)	1	3	6	12	
19	40171201	Stay_Lower(Front)	1	3	6	12	
20	40144501	Lever_Regist_Sensor	1	3	6	12	
21	40437601	Board-PXM	1	3	6	12	
22	40130801	Roller_Registration	2	6	12	24	
23	40310601	Roller_Assy_Hopping	1	3	6	12	
24	40303301	Guide_Paper_Input_Assy	1	3	6	12	
25	40261301	Bearing_Hopping	3	9	18	36	
26	40130301	Gear(Z20)	1	3	6	12	
27	4PP4076-5308P001	Bearing_F	1	3	6	12	
28	4PP4076-3949P001	Bush	2	6	12	24	
29	40250901	Gear_Oneway(96)	1	3	6	12	
30							
31	40164301	Gear_Oneway(Z48)	2	6	12	24	
32	40171101	Stay_Upper(Front)	1	3	6	12	
33	40388501	Bracket_SW	1	3	6	12	
34	40195101	Plate_Latchlever(FD)	1	3	6	12	
35	40195001	Spring_Latchlever(FD)	1	3	6	12	
36	40175201	Stay_Heat	1	3	6	12	
37	40563101	Connection_cord_wire	1	3	6	12	

No.	Parts No.	Name	Q'ty/U	Reccomended Q'ty			Remarks
				500	1000	2000	
38	4PB4043-4718P001	Screw	2	6	12	24	
39	40162101	Guide_Assy_Heat_Unit	1	3	6	12	
40	40175101	Stay_EP	1	3	6	12	
41	40449401	Guide_Assy_Heat	1	3	6	12	
42	40449701	Hopping_Roller_Boss_Assy	1	3	6	12	
43	40097301	Guide_Paper_Input_A	1	3	6	12	
44	40144301	Lever_Input_Sensor	2	6	12	24	
45	40144401	Lever_2ndFeed_Sensor	1	3	6	12	
46	40189601	Shaft_Hoppingroller(1st)	1	3	6	12	
47	40450201	Bracket_Switch	1	3	6	12	
48	40408601	Holder_Switch	4	12	24	48	
49	40264401	Spring_Eject_Heat	1	3	6	12	
50	NK3-18-SUS	Knock_Pinn	1	3	6	12	
51	40447201	CONN_Cord_Wire	1	3	6	12	
52	40388401	Bracket_Switch(Side)	1	3	6	12	
53	40446501	InterLock_SW_Cable_Assy	1	3	6	12	
54	40162201	Cover_Sensor	1	3	6	12	
55	(40172401)	(AMP6P-AMP4P)	(1)	(3)	(6)	(12)	Designated in Fig.8-5
56	40437501	Board-PXL	1	3	6	12	
57	40171801	Cordwire_AMP7P_AMP7P	1	3	6	12	
58	40447301	Cordwire_JST6P_AMP3PX2	1	3	6	12	
59	40303201	Plate_Base_Assy	1	3	6	12	
60	40303101	Guide_Cassette(L)Assy	1	3	6	12	
61	40302901	Guide_Cassette(R)Assy	1	3	6	12	
62	40164801	Plate_Bottom	1	3	6	12	
63	40448501	Conection_cord_wire	1	3	6	12	
64	40551301	Plate_Shield_Heat	1	3	6	12	
65	40714401	Heat-Sink(801)	1	3	6	12	
66	40743701	Roller Ass-Hopping(Sub)	2	6	12	24	
67	40686701	Spacer-Regist_gear	3	9	18	36	
68	40661001	Cover-Bottom(Weld)	1	3	6	12	
69	40661501	Plate-Guide	1	3	6	12	
70	40671001	Rubber-Foot	4	12	24	48	
71	4PB4017-5125P002	Big-Finger	1	3	6	12	
72	40834901	Spring-Eject-Heat	1	3	6	12	

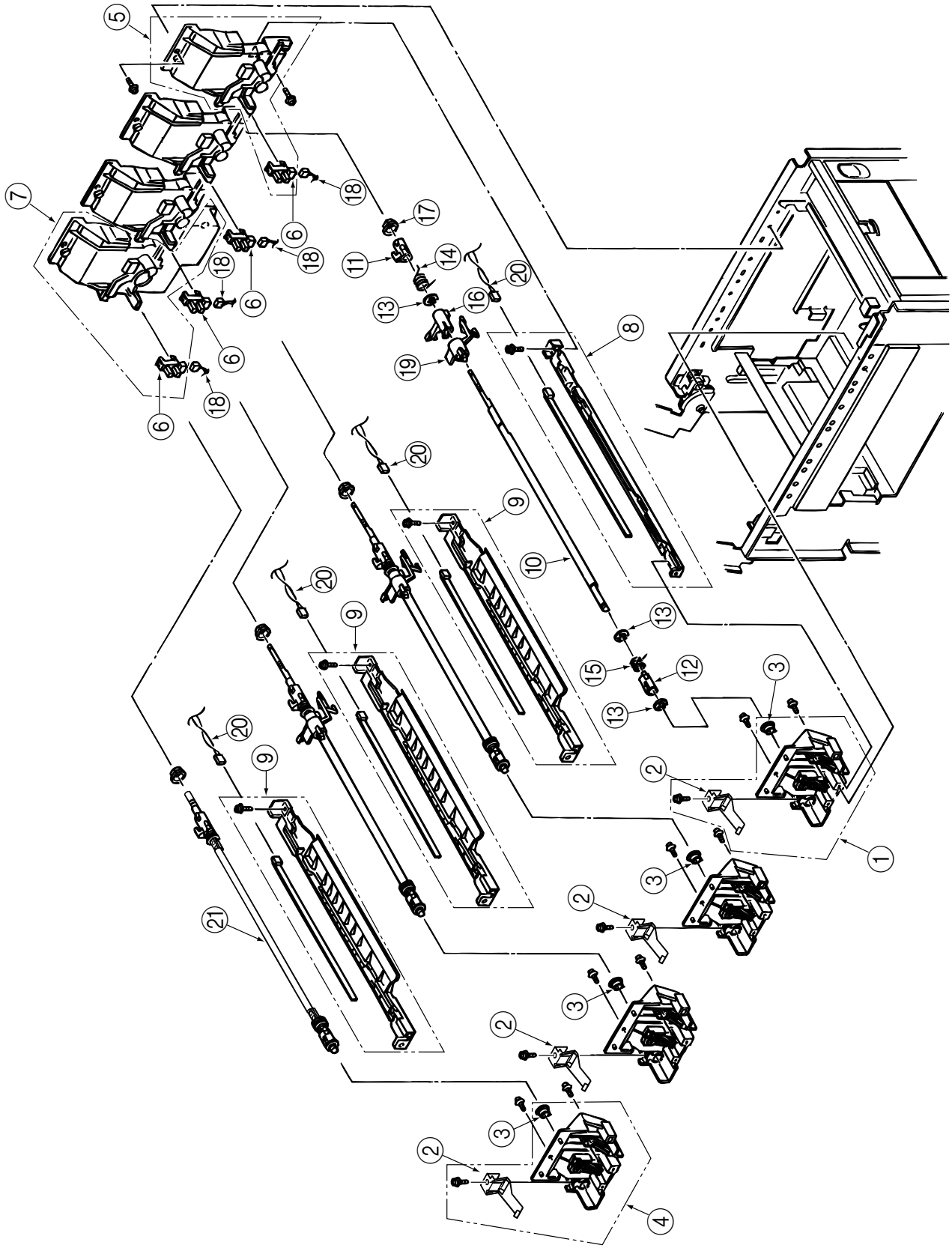

Fig.8-4

Table.8-4

No.	Parts No.	Name	Q'ty/U	Reccomended Q'ty			Remarks
				500	1000	2000	
1	40324501	Cotact_(BL_L)Assy	3	9	18	36	Includes Item2, 3
2	40278101	Plate_Earth(LK)	1	3	6	12	
3	4PP4076-5308P001	Bearing	1	3	6	12	
4	40324401	Contact_(CL_L)Assy	1	3	6	12	Includes Item2, 3
5	40324601	Contact_BKT(BL_R)Assy	3	9	18	36	Includes Item6
6	40135301	Photo_Interrupter	1	3	6	12	
7	40309001	Contact_BKT(CL_R)Assy	1	3	6	12	Includes Item6
8	40308501	Eraser_BKT_Assy	1	3	6	12	
9	40324301	Eraser_BKT(KCM)_Assy	3	9	18	36	
10	40167901	Shaft_Link	3	9	18	36	
11	40132301	Lever_Link(R)	4	12	24	48	
12	40132401	Lever_Link(L)	4	12	24	48	
13	RE6-SUS	E Ring	16	48	96	192	
14	40168401	Spring_Support(R)	4	12	24	48	
15	40188501	Spring_Support(L)	4	12	24	48	
16	40136201	Bracket_Sensor_Toner(KCM)	3	9	18	36	
17	4PP3522-3568P001	Bearing	4	12	24	48	
18	40173301	AMP14P-AMP3X4	1	3	6	12	
19	40449502	Sensor_Assy_T(KCM)	3	9	18	36	
20	40172701	Cordwire_AMP8P_AMP2PX4	1	3	6	12	
21	40664301	Shaft (k) Assy	1	3	6	12	

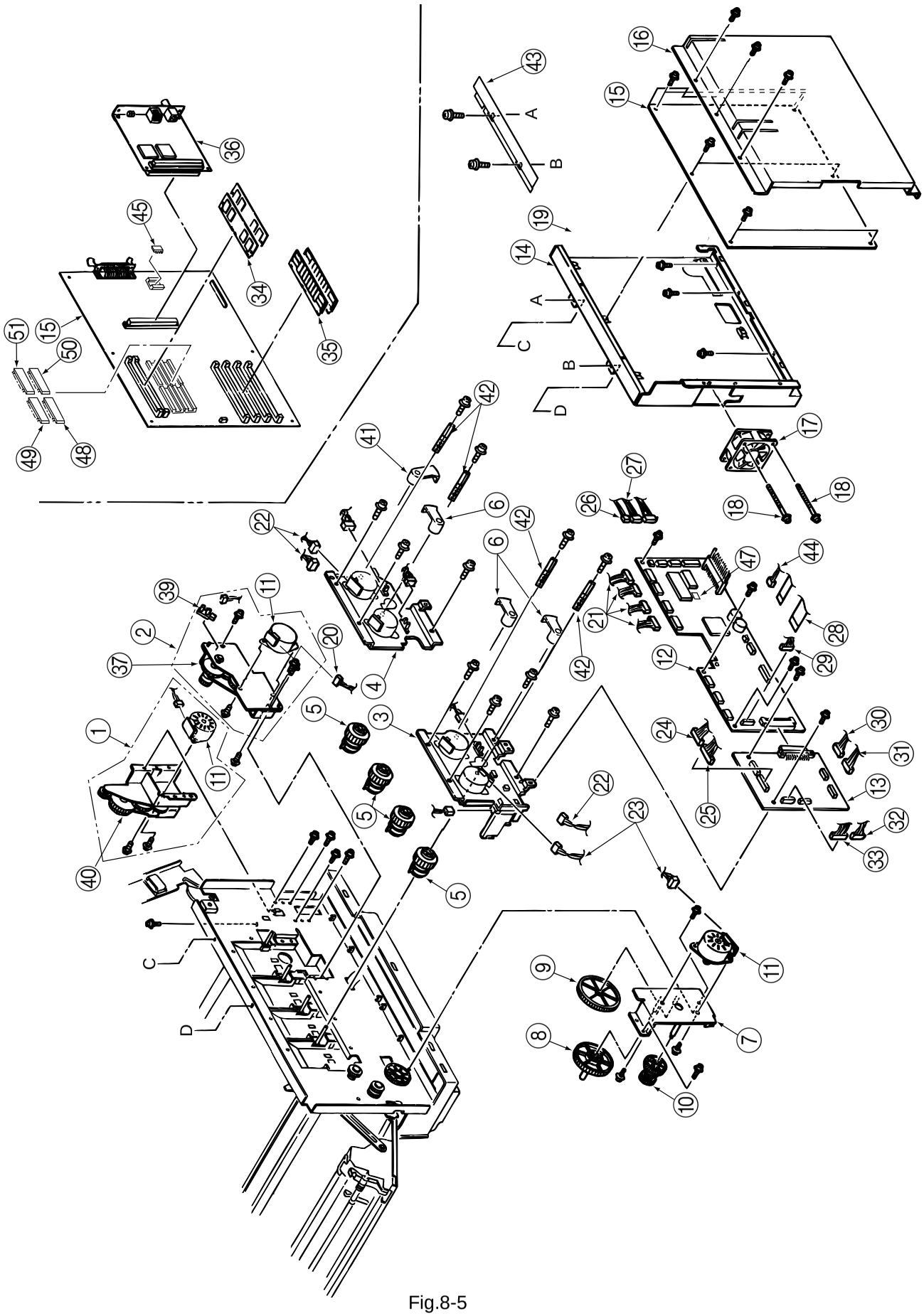
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Fig.8-5

Table.8-5

No.	Parts No.	Name	Q'ty/U	Reccomended Q'ty			Remarks
				500	1000	2000	
1	40310001	Gear_Heat_Assy	1	3	6	12	
2	40392301	Motor_Assy_Belt	1	3	6	12	
3	40309101	Main_Motor(A)_Assy	1	3	6	12	
4	40309201	Main_Motor(B)_Assy	1	3	6	12	
5	40208101	Gear_Oneway(Z30)	4	12	24	48	
6	40664401	Lever_Up/ Dn2(YMC)	3	9	18	36	
7	40175001	Bracket_Hopping_Motor	1	3	6	12	
8	40143401	Gear_Idle(92)	1	3	6	12	
9	40143501	Gear_Feed(118/ 17)	1	3	6	12	
10	40164401	Gear_Oneway(Z48/ 74)	1	3	6	12	
11	40124101	Motor_Pulse(ID)	3	9	18	36	
12	40634106	Board-PX4	1	3	6	12	EEPROM is excluded
13	40437201	Board-PXF	1	3	6	12	
14	40233901	Cover_CU	1	3	6	12	
15	40950902	Board-PCE	1	3	6	12	
16	40376901	Plate_Sealed	1	3	6	12	
17	40197101	Motor_Fan	1	3	6	12	
18	PSW2W3-25C	Screw(SW+2W)	2	6	12	24	
19	40377001	Board_IF	1	3	6	12	
20	40171002	AMP8P-AMP4PX2	1	3	6	12	
21	40456101	JST12 AMP15 AMP10 AMP9 connection cord	1	3	6	12	Cable Assy
22	40173001	AMP12P-AMP3PX2	1	3	6	12	
23	40171001	AMP8P-AMP4PX2	1	3	6	12	
24	40447101	AMP12P-AMP3PX4	1	3	6	12	
25	(40173301)	(AMP14P-AMP3PX4)	(1)	(3)	(6)	(12)	Designated in Fig.8-4
26	(40171801)	(AMP7P-AMP7P)	(1)	(3)	(6)	(12)	Designated in Fig.8-3
27	40172401	AMP6P-AMP4P	1	3	6	12	
28	2381005P0003	HCUJ (1.25)-16F-300	1	3	6	12	
29	40172801	AMP12P-AMP4, 3X2	1	3	6	12	
30	(40447301)	(JST6P-AMP3PX2)	(1)	(3)	(6)	(12)	Designated in Fig.8-3
31	(40177701)	(AMP7P-AMP7P)	(1)	(3)	(6)	(12)	Designated in Fig.8-7
32	40447001	JST8P-JST8P	1	3	6	12	
33	(40172701)	(AMP8P-AMP2PX4)	(1)	(3)	(6)	(12)	Designated in Fig.8-4
34	41073305	PS-SIMM	1	3	6	12	
35	8020003M6601	DRAM-SIMM	2	6	12	24	
	-	DRAM-SIMM	(1)	(3)	(6)	(12)	Optional, commercial purchase parts
36	-	NETWORK-CARD	(1)	(3)	(6)	(12)	Optional, commercial purchase parts

No.	Parts No.	Name	Q'ty/U	Reccomended Q'ty			Remarks
				500	1000	2000	
37	40450001	Belt_Motor_Mech_Assy	1	3	6	12	
38	-	-	-	-	-	-	
39	40135301	Photo_Interrupter	1	3	6	12	
40	40448901	Gear_Heat_Mech_Assy	1	3	6	12	
41	40664501	Lever_Up/ Dn2(K)	1	3	6	12	
42	40583901	Plate_Earth(LKR)	4	12	24	48	
43	40704901	Plate_Shield(CU)	1	3	6	12	
44	(40447201)	CONN_Cord_Wire	(1)	(3)	(6)	(12)	Designated in Fig.8-3
45	8164303M0000	E2ROM1	1	3	6	12	
46							
47	816A2323M0000	NM93C66N-NW	1	3	6	12	
48	41088101	PROM_Control	1	3	6	12	
49	41088201	PROM_Control	1	3	6	12	
50	41088301	PROM_Control	1	3	6	12	
51	41088401	PROM_Control	1	3	6	12	

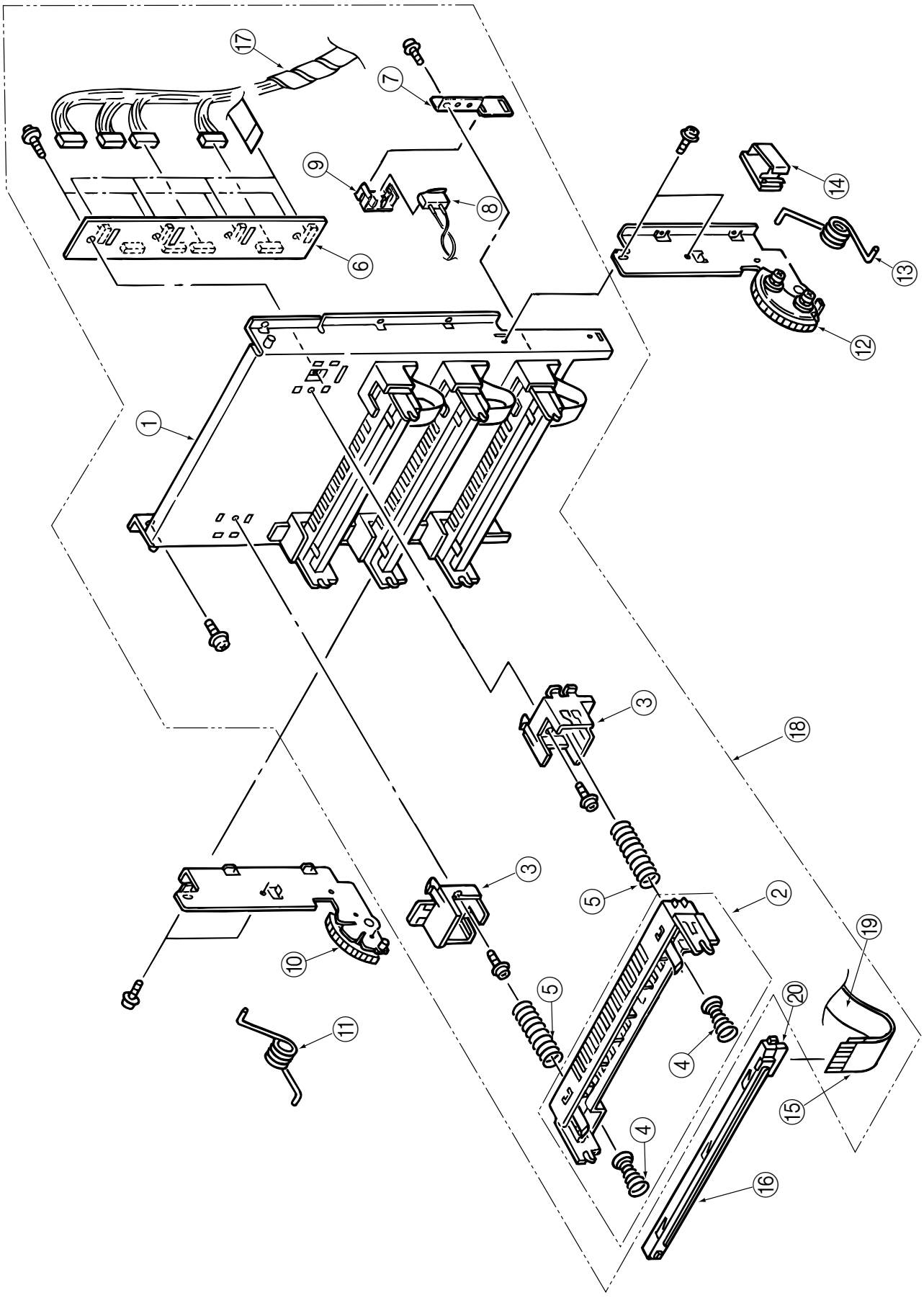


Fig.8-6

Table.8-6

No.	Parts No.	Name	Q'ty/U	Reccomended Q'ty			Remarks
				500	1000	2000	
1	40187901	Frame_Upper	1	3	6	12	
2	40449101	Holder_LED_Assy	4	12	24	48	
3	40187801	Guide_Holder	8	6	12	24	
4	40829701	Spring_Head	8	6	12	24	
5	40197705	Spring_EP	8	6	12	24	
6	40536001	Board_PD6	1	3	6	12	
7	40394201	Plate_Oil_Sensor	1	3	6	12	
8	40171702	AMP2P_MSW	1	3	6	12	
9	40408601	Holder_SW	1	3	6	12	
10	40449301	Plate_Support_(L)Assy	1	3	6	12	
11	40197401	Torsion_Spring(A)	1	3	6	12	
12	40449201	Plate_Support_(R)Assy	1	3	6	12	
13	40218301	Torsion_Spring(B)	1	3	6	12	
14	LP-6665-1	Flat_Cable_Clip	1	3	6	12	
15	2381005P0001	HCUJ(1.25)-14F-140-10S6(B)-MI92896)	4	12	24	48	
16	40547301	LED_Head_Unit-51M	4	12	24	48	
17	(40456101)	JST12 AMP15 AMP10 AMP9 connection cord	(1)	(3)	(6)	(12)	Designated in Fig.8-5
18	40410701	Frame_Upper_Assy	1	3	6	12	
19	2381005P0006	HCUJ(1.25)-12F-160	4	12	24	48	
20	224A1287P0260	PXW26-1250B	4	12	24	48	

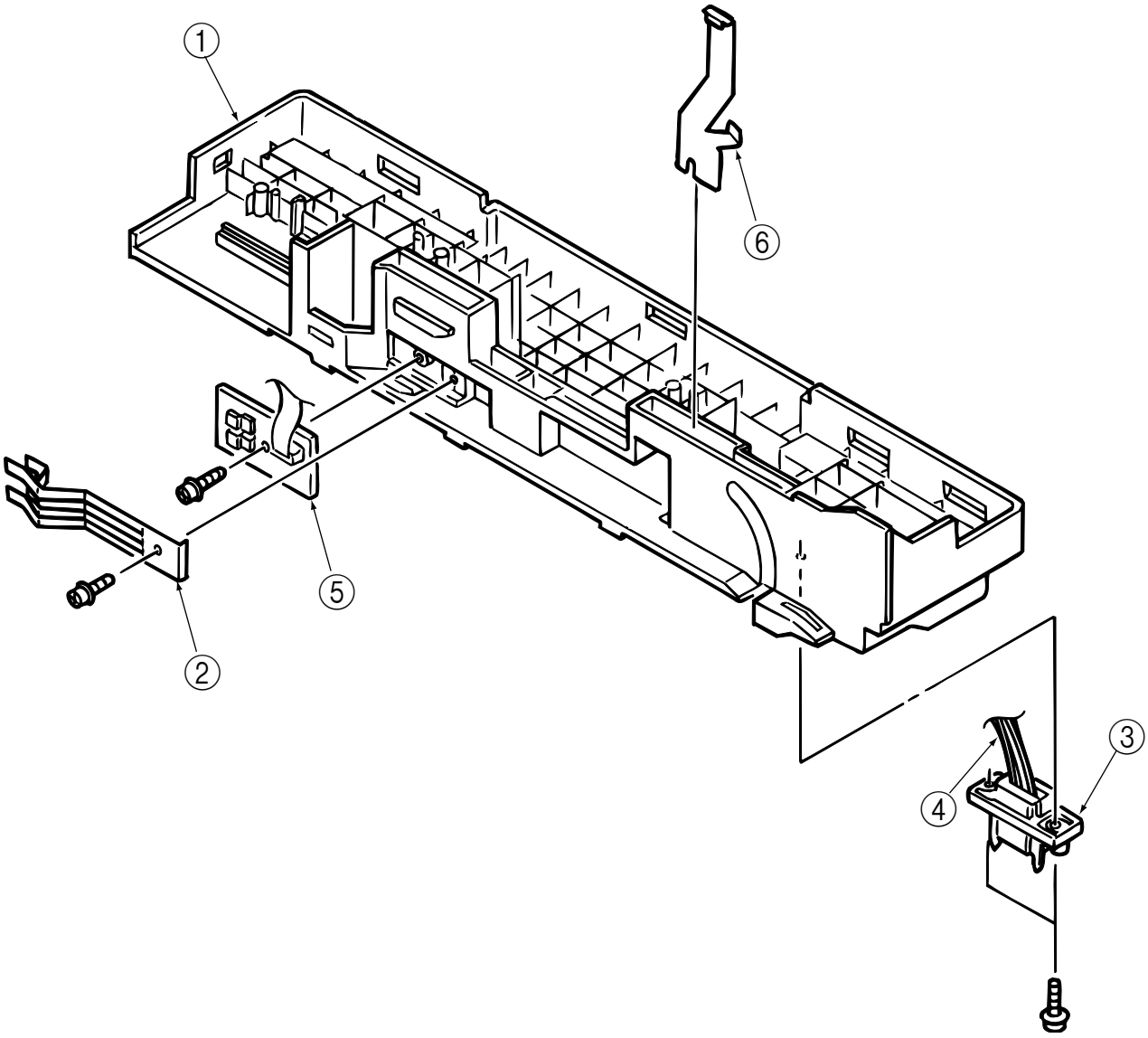


Fig.8-7

Table.8-7

No.	Parts No.	Name	Q'ty/U	Reccomended Q'ty			Remarks
				500	1000	2000	
1	40449801	Guide_Cassette(R)Sub_Assy	1	3	6	12	
2	4PP4076-5360P001	Spring_Detector	1	3	6	12	
3	220A1866P0140	Square_shaped_connector	1	3	6	12	
4	40177701	Connector_Cord	1	3	6	12	
5	40368301	Board-PXC	1	3	6	12	
6	4PP4076-5742P001	Plate_Earth (link)	1	3	6	12	

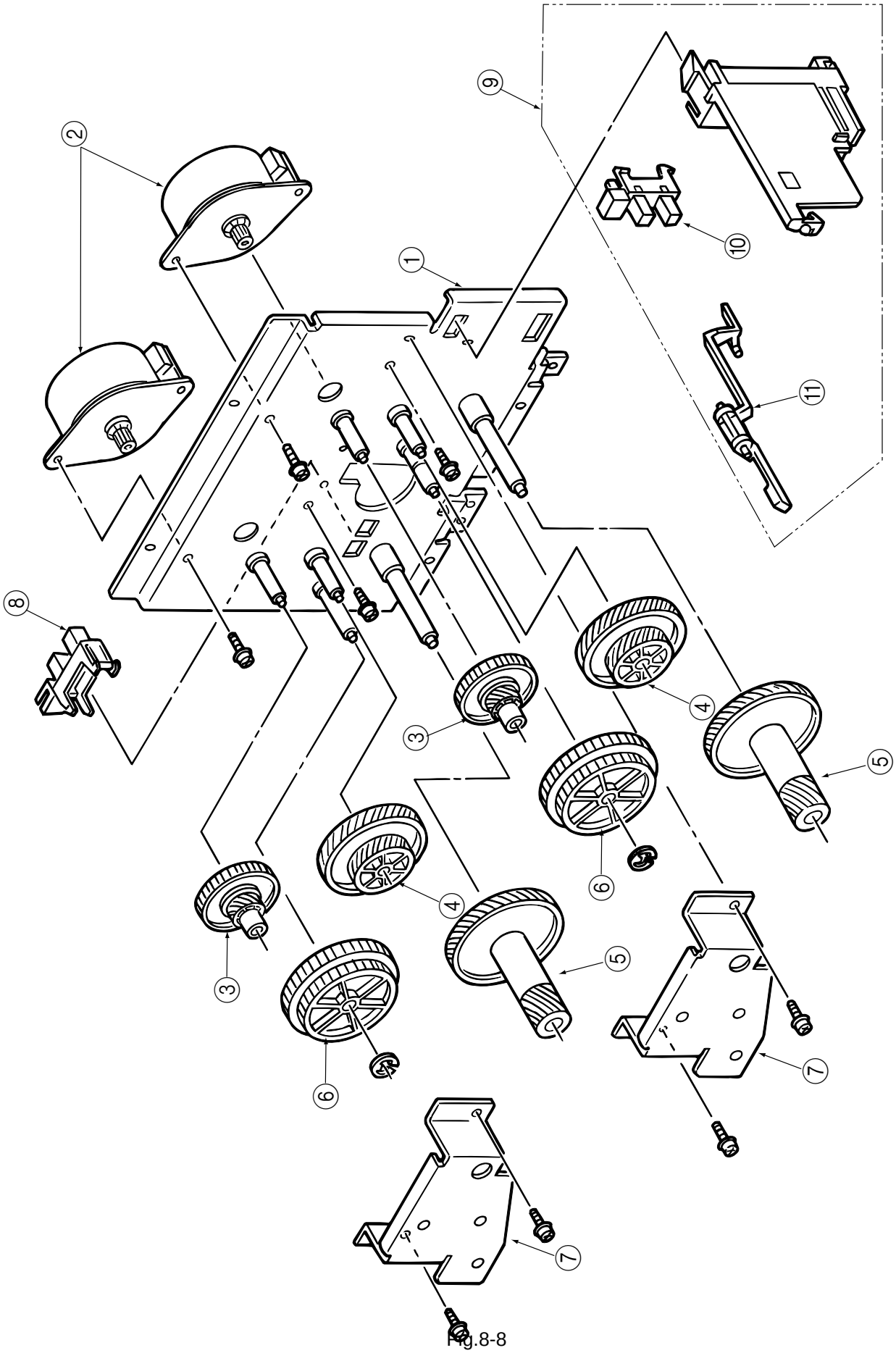


Fig.8-8

Table.8-8

No.	Parts No.	Name	Q'ty/U	Reccomended Q'ty			Remarks
				500	1000	2000	
1	40165301	Frame_Motor(ID1)	1	3	6	12	
2	40124101	Motor_Pulse(ID)	2	6	12	24	
3	40129901	Gear_(25/75)	2	6	12	24	
4	40130701	Gear_Helical(67/43/24)	2	6	12	24	
5	40130601	Gear_Helical(67/18)	2	6	12	24	
6	40130201	Gear_Z53/44	2	6	12	24	
7	40129501	Bracket_Support(ID)	2	6	12	24	
8	40135301	Photo_Interrupter	1	3	6	12	
9	40308601	Toner_Sensor(Y)_Assy	1	3	6	12	
10	40135301	Photo_Interrupter	1	3	6	12	
11	40449601	Sensor_Assy_T(Y)	1	3	6	12	

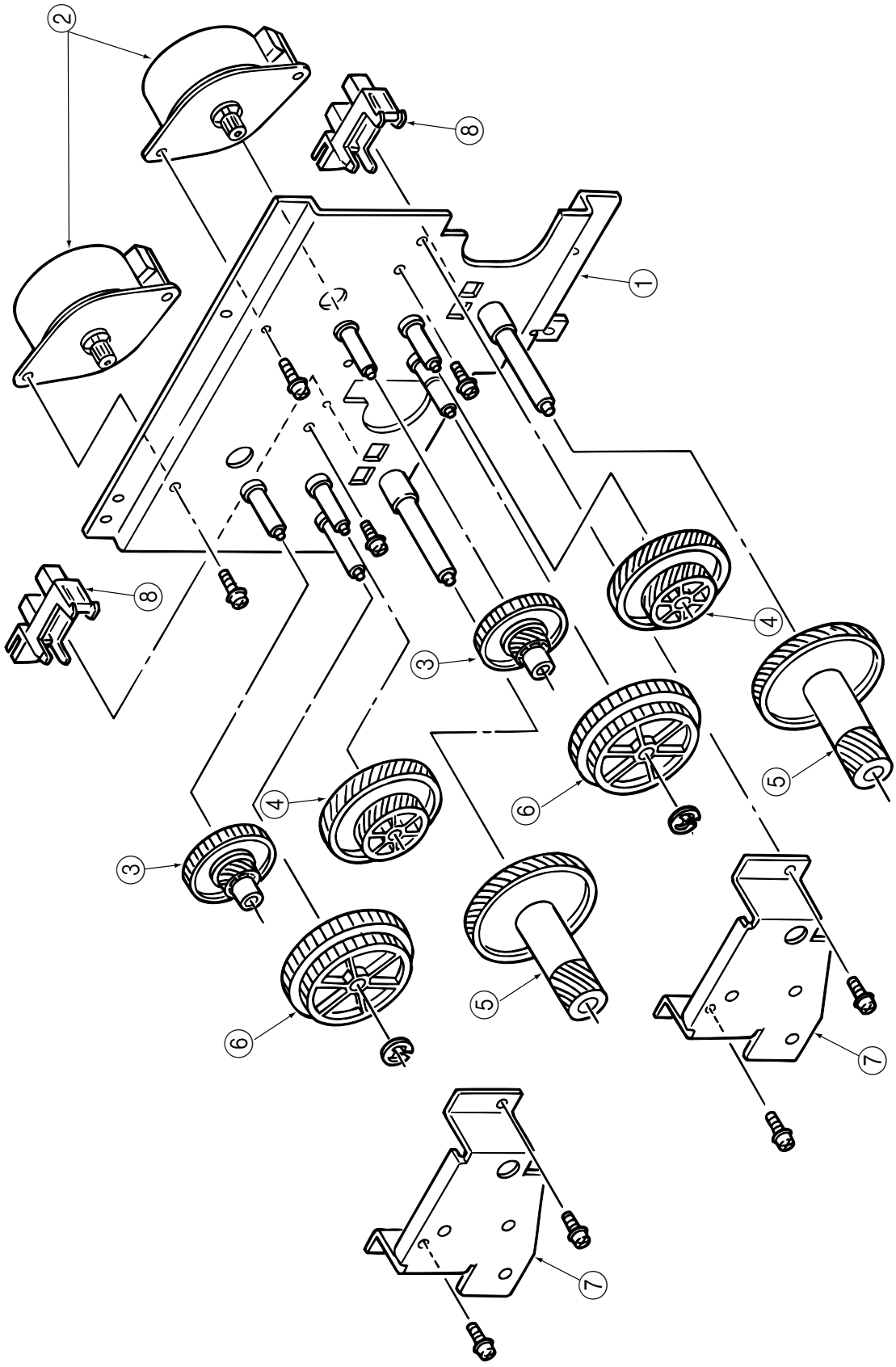


Fig.8-9

Table.8-9

No.	Parts No.	Name	Q'ty/U	Reccomended Q'ty			Remarks
				500	1000	2000	
1	40129401	Frame_Motor(ID)	1	3	6	12	
2	40124101	Motor_Pulse(ID)	2	6	12	24	
3	40129901	Gear_(25/75)	2	6	12	24	
4	40130701	Gear_Helical(67/43/24)	2	6	12	24	
5	40130601	Gear_Helical(67/18)	2	6	12	24	
6	40130201	Gear_Z53/44	2	6	12	24	
7	40129501	Bracket_Support(ID)	2	6	12	24	
8	40135301	Photo_Interrupter	2	6	12	24	

Appendix A CENTRONICS PARALLEL INTERFACE

1) Connector

- Printer side : 36-pin receptacle (Female)
  Type 57RE-40360-830B-D29 (made by Daiichi Denshi) or equivalent
- Cable side : 36-pin plug (Male)
  Type 57-30360 (made by Daiichi Denshi) or equivalent
  Plug-552274-1 (AMP), 552073-1 (AMP) or equivalent

2) Cable

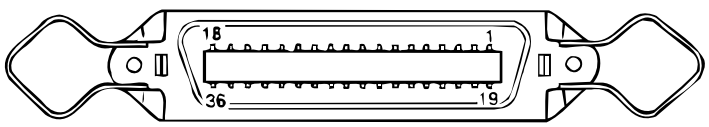
- Cable length : 6 ft (1.8 m) max.
  (A Shielded cable composed of twisted pair wires is recommended for noise prevention.)

Note: Cable is not supplied.

3) Table of parallel I/F signals

Pin No.	Signal name	Signal direction	Functions
1	DATA STROBE	→ PR	Parallel data sampling strobe
2	DATA BIT - 1		
3	DATA BIT - 2		
4	DATA BIT - 3		
5	DATA BIT - 4	→ PR	Parallel input data
6	DATA BIT - 5		
7	DATA BIT - 6		
8	DATA BIT - 7		
9	DATA BIT - 8		
10	ACKNOWLEDGE	← PR	Completion of data input or end of functioning
11	BUSY	← PR	During print processing or during alarm
12	PAPER END	← PR	End of paper
13	SELECT	← PR	Select state (ON-LINE)
14	Auto Feed	→ PR	Request to change Mode
15	-		(Not used)
16	0V		Signal ground
17	CHASSIS GROUND		Chassis ground
18	+5V	← PR	50 mA max.
19 ⋮ 30	0V Signal ground		Signal ground
31	INPUT PRIME	→ PR	Initializing signal
32	FAULT	← PR	End of paper or during alarm
33	0V		Signal ground
34	-		(Not used)
35	-		High level (3.3 kΩ)
36	Select In	→ PR	Request to change Mode

- Connector pin arrangement



4) Signal level

- LOW : 0 V to +0.8 V
- HIGH : +2.4 V to +5.0 V

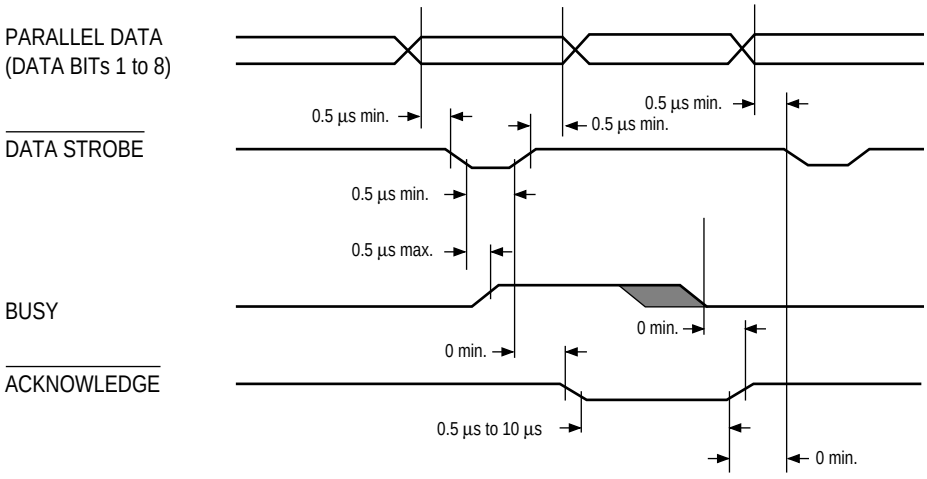
5) Specifications

Item	Description
Mode	Compatibility mode, Nibble mode, ECP mode
Data bit length	8 bits: Compatibility mode, 4 bits: Nibble mode, 9 bits: ECP mode
Input prime	Valid/Invalid
Receive buffer	100KB, 512KB, 1MB
Control	Handshaking control is performed in each mode. Data received from the host is stored in the receive buffer. Busy control is performed. Signal lead control is performed.

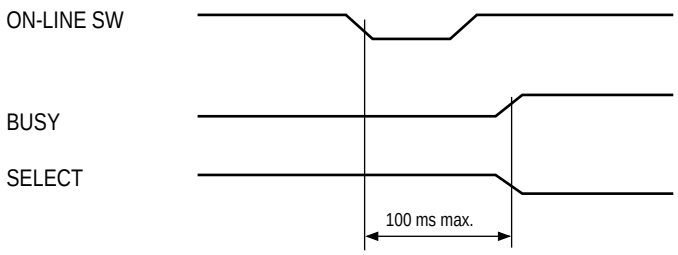
6) Timing charts

• Compatible mode

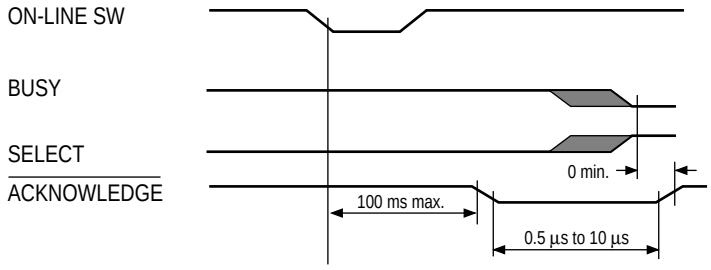
a) Data receiving timing



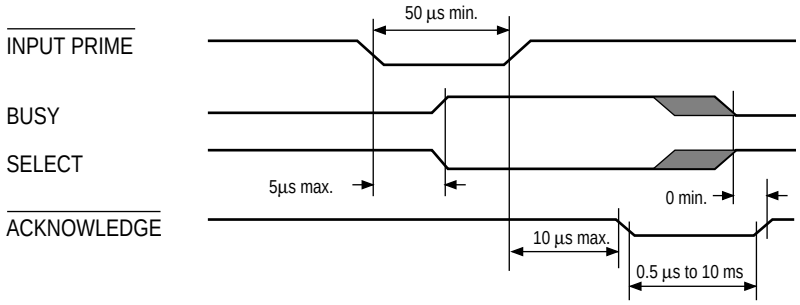
b) On-line off-line switching timing by ON-LINE SW



c) Off-line on-line switching by ON-LINE SW



d) nlnit timing (when set to the effective INPUT PRIME signal)



• Nibble mode
Conforms to IEEE1284 spec.

• ECP mode
Conforms to IEEE1284 spec.

Appendix B HIGH CAPACITY SECOND PAPER FEEDER

1. OUTLINE

1.1 Functions

The printer is mounted on top of this High Capacity Second Paper Feeder, and it supplies paper automatically through the operation of hopping motor, which is driven by signals sent from the printer.
The main functions are the followings:

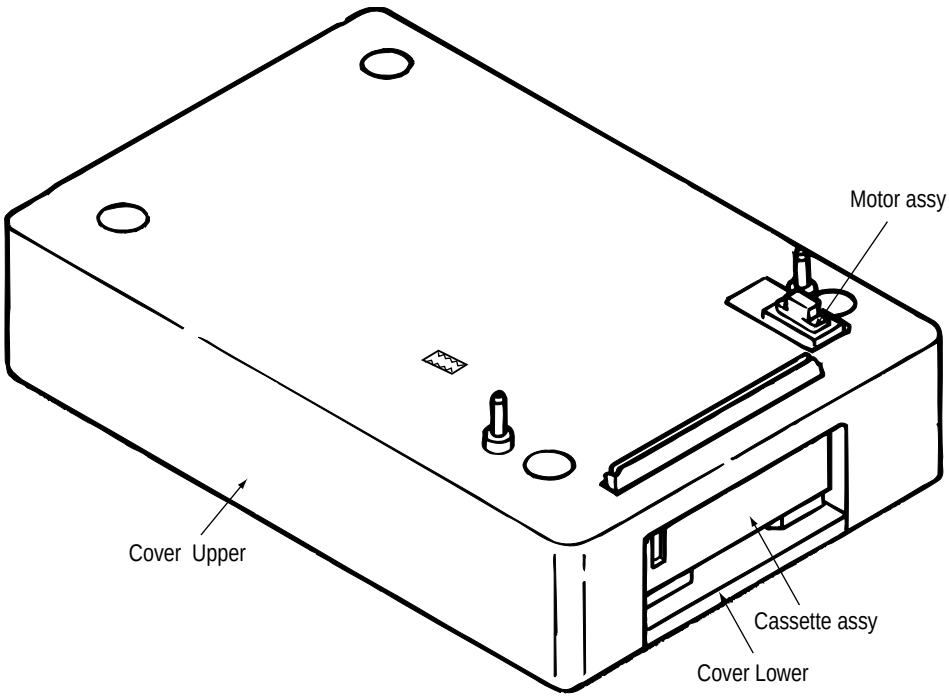
- Paper that can be used:

  [Paper Type]
  - Cut Sheet Size: A4, A5, B5, Letter, Executive, Legal13, Legal14
  - Special Size: Paper Width: 148 to 216mm
    Paper length: 210 to 356mm

  [Weight]
  - 70 ~ 105 g/m^2

  - Paper setting quantity: 500 sheets of paper weighing 70 g/m^2

1.2 External View and Component Names



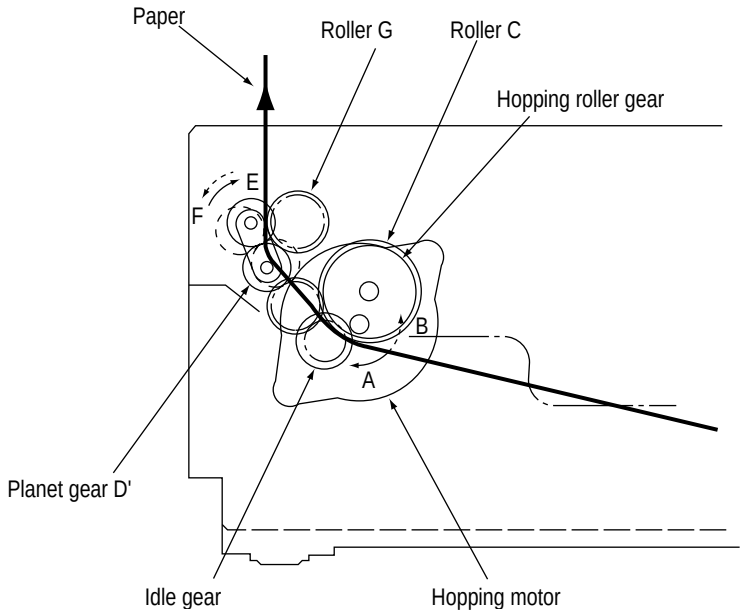
2. MECHANISM DESCRIPTION

2.1 General Mechanicsm

The sheet at the very top of the stack in the paper cassette is fed into the printer, one sheet at a time, when the High Capacity Second Paper Feeder receives the signal from the printer.

(1) First, the hopping motor rotates in the direction of arrow A. The hopping gear is turned, via idle gear, and the roller C on the same shaft is also turned. At the same time, the planet gear D' moves in the direction of the arrow E, roller G turns; the paper is fed for a predesignated distance until its leading edge reaches roller G.

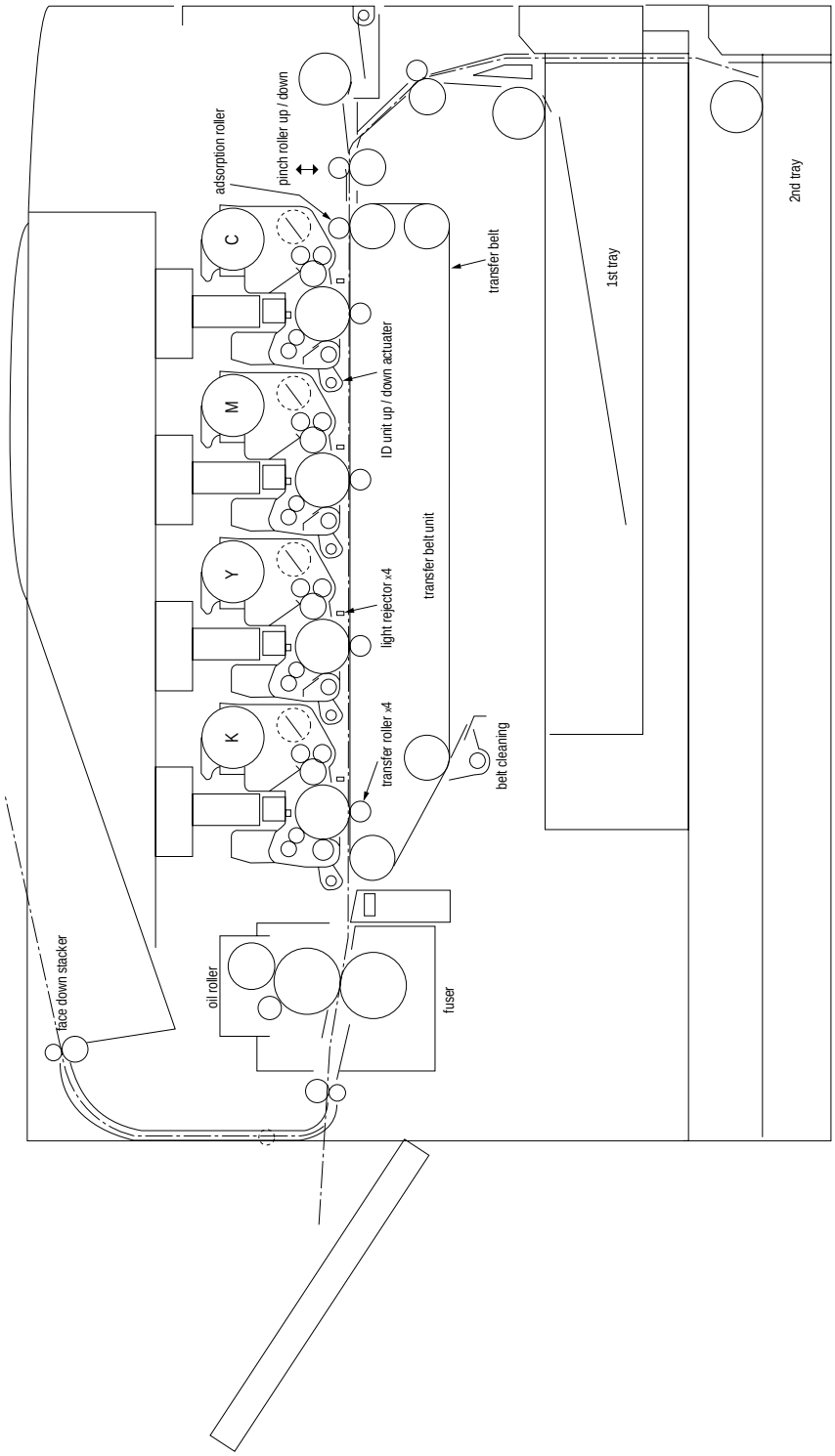
(2) Next, the hopping motor rotates in the direction of arrow B. While the hopping gear also turns at the same time, due to the one-way bearing being engaged at the hopping gear, the roller C does not turn. The planet gear D' moves in the direction of the arrow F, drives the Roller G and feeds the paper into the printer, until it reaches the registration roller of the printer.



Once the delivered into the printer, the paper is then controlled and fed through by registration motor of the printer.

2.2 Hopper Mechanism

The hopper automatically feeds the printer with the paper being set, single sheet at a time. When the paper is loaded in the paper cassette, it is then transported by the hopping motor, carrying forward only a single sheet caught by hopping roller at a time.



3. PARTS REPLACEMENT

This section covers the procedures for the disassembly, reassembly and installations in the field. This section describes the disassembly procedures, and for reassembly procedures, basically proceed with the disassembly procedures in the reverse order.

3.1 Precautions Concerning Parts Replacement

(1) Parts replacements must be carried out, by first turning the printer power switch off “O” and removing the High Capacity Second Paper Feeder from the printer.

(2) Do not disassemble the Second Paper Feeder if it is operating normally.

(3) Establish the extent of disassembly suitable for the purpose of the procedure, and do not disassemble any more than necessary.

(4) Only specified service tools may be used.

(5) Disassembly must be carried out according to the prescribed procedures. Parts may be damaged if such procedures are not followed.

(6) Small parts such as screws and collars can easily be lost, therefore these parts should be temporarily fixed in the original location.

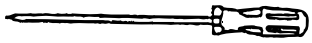
(7) When handling printed circuit boards, do not use any glove which may generate static electricity.

(8) Do not place the printed circuit boards directly on the equipment or floor.

[Service Tools]

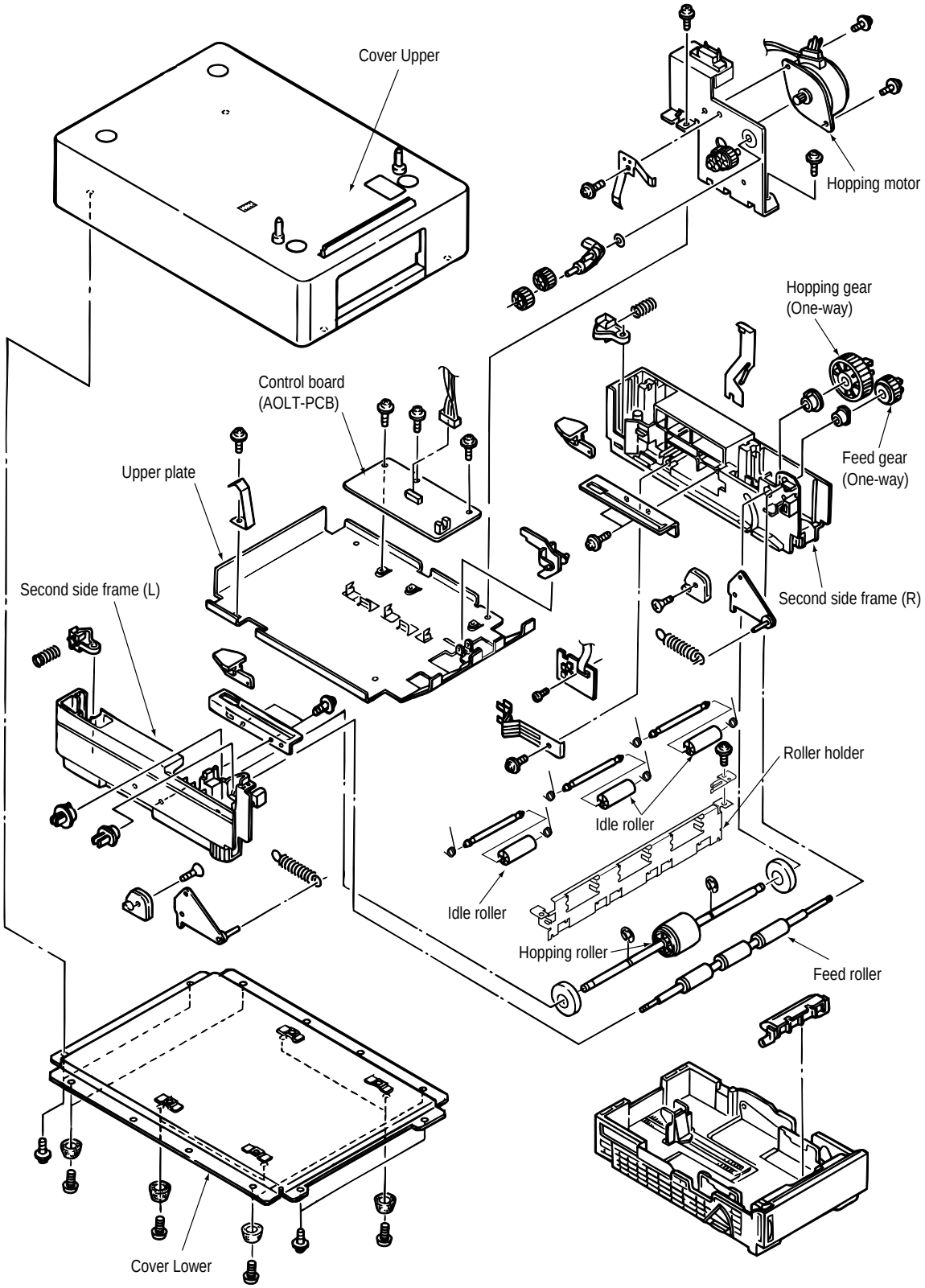
Table 3-1 shows the tools required for the replacement of printed circuit boards and units in the field.

Table 3-1 Service Tools

No.	Service Tools		Q'ty	Place of use	Remarks
1		No. 1-100 Philips screwdriver	1	2~2.5 mm screws	
2		No. 2-100 Philips screwdriver	1	3~5 mm screws	
3		No. 3-100 screwdriver	1		
4		No. 5-200 screwdriver	1		
5		Digital multimeter	1		
6		Pliers	1		
7		Handy cleaner	1		
8		LED Head cleaner P/N 4PB4083-2248P1	1	Cleans LED head	
9		Tweezers	1		

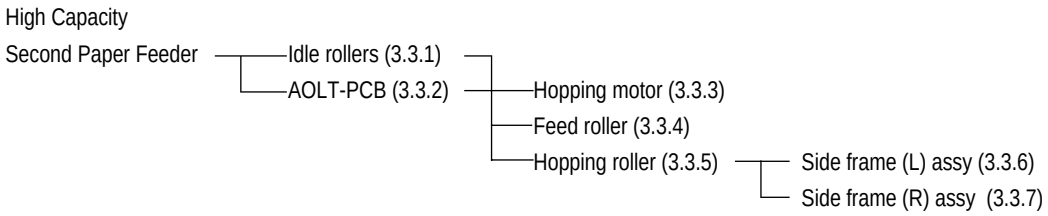
3.2 Parts Layout

This section describes the layout of the main components.



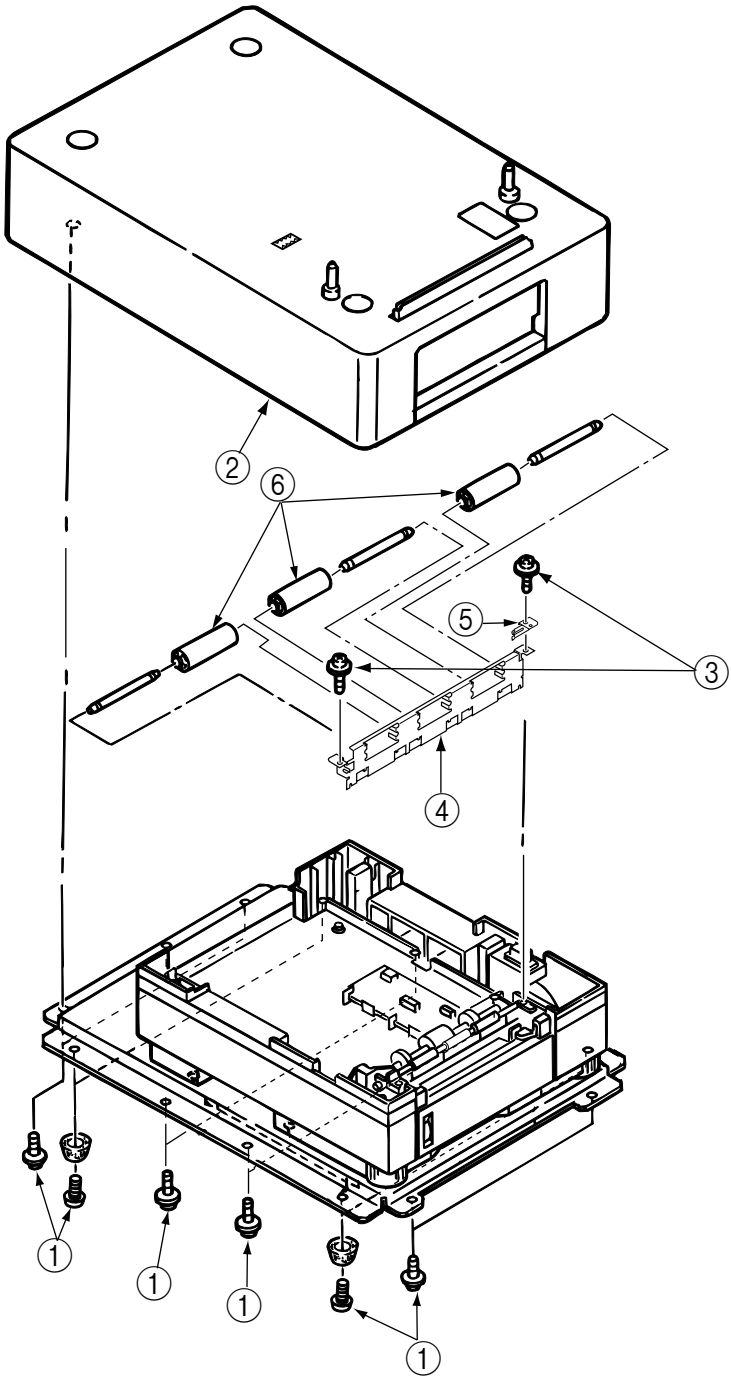
3.3 Parts Replacement Methods

This section describes the parts replacement methods for the components listed in the disassembly order diagram below.



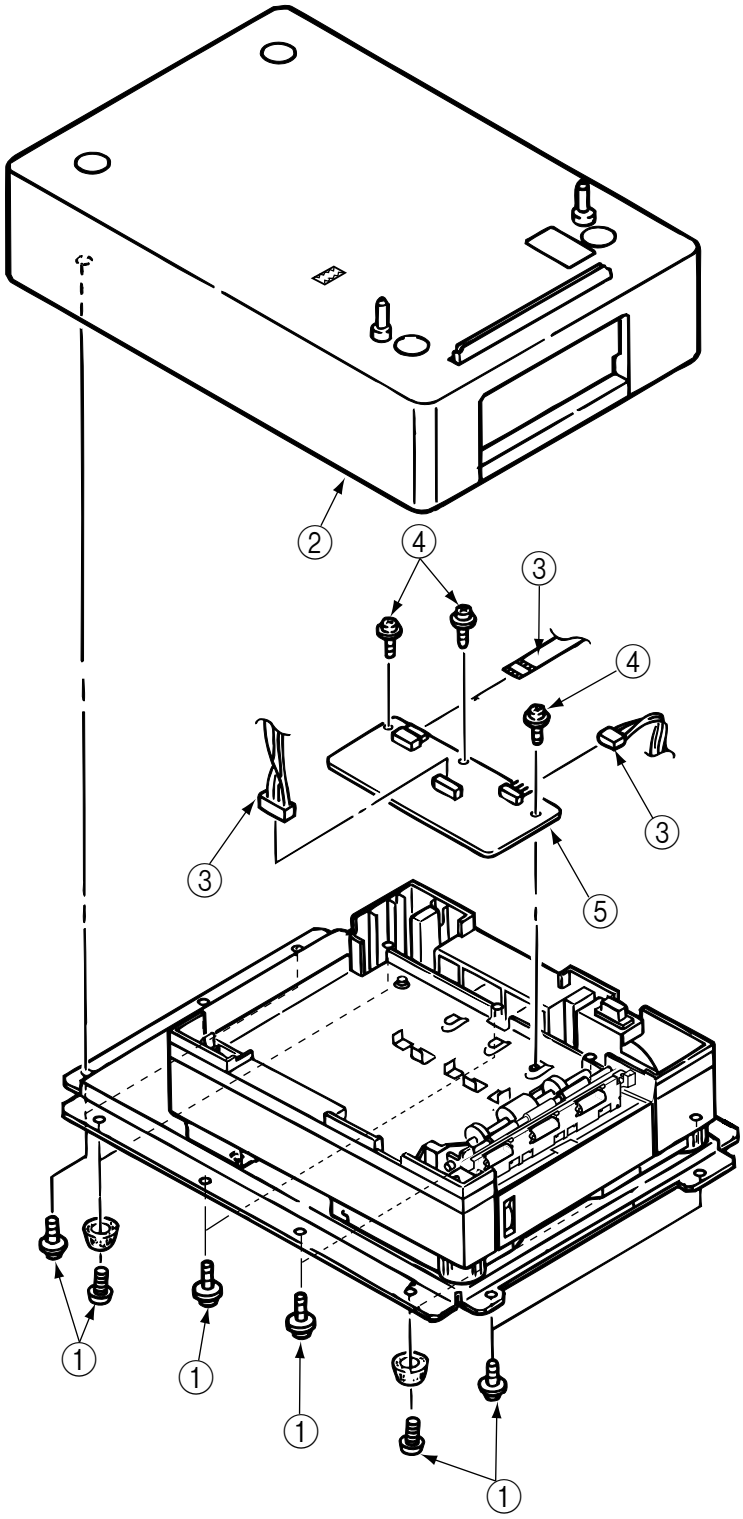
3.3.1 Idle rollers

(1) Remove 13 screws ① and remove the Cover Upper ②,sliding it.
(2) Remove two screws ③ and remove the front panel assy ④.
(The earth plate ⑤ come off at the same time, so be careful not to lose them.)
(3) Remove two idle rollers ⑥.



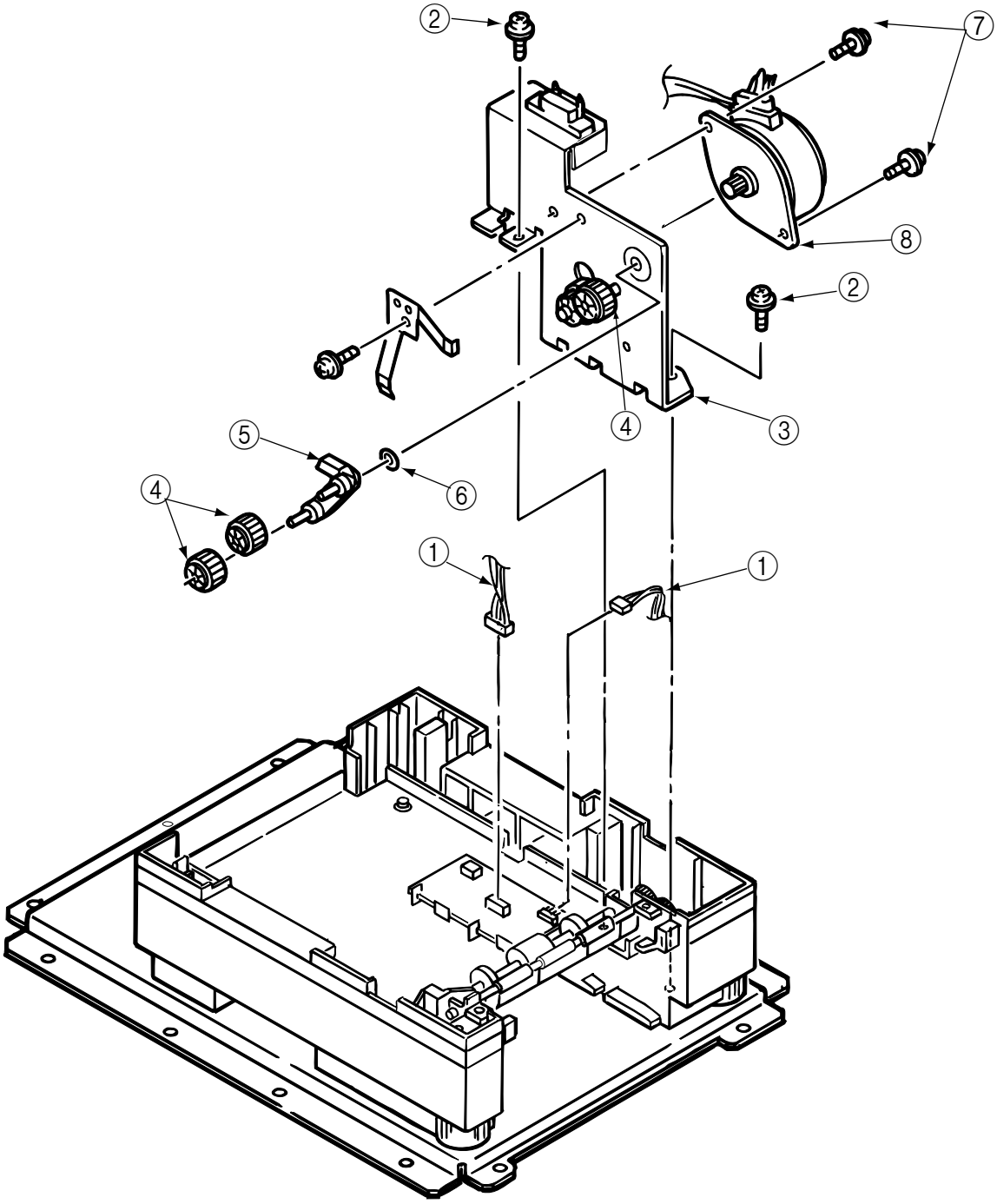
3.3.2 AOLT-PCB

(1) Remove 13 screw ① and remove the Cover Upper ②, sliding it (See 3.3.1 step1.).
(2) Remove three connectors ③ and three screws ④.
(3) Remove the AOLT-PCB ⑤.



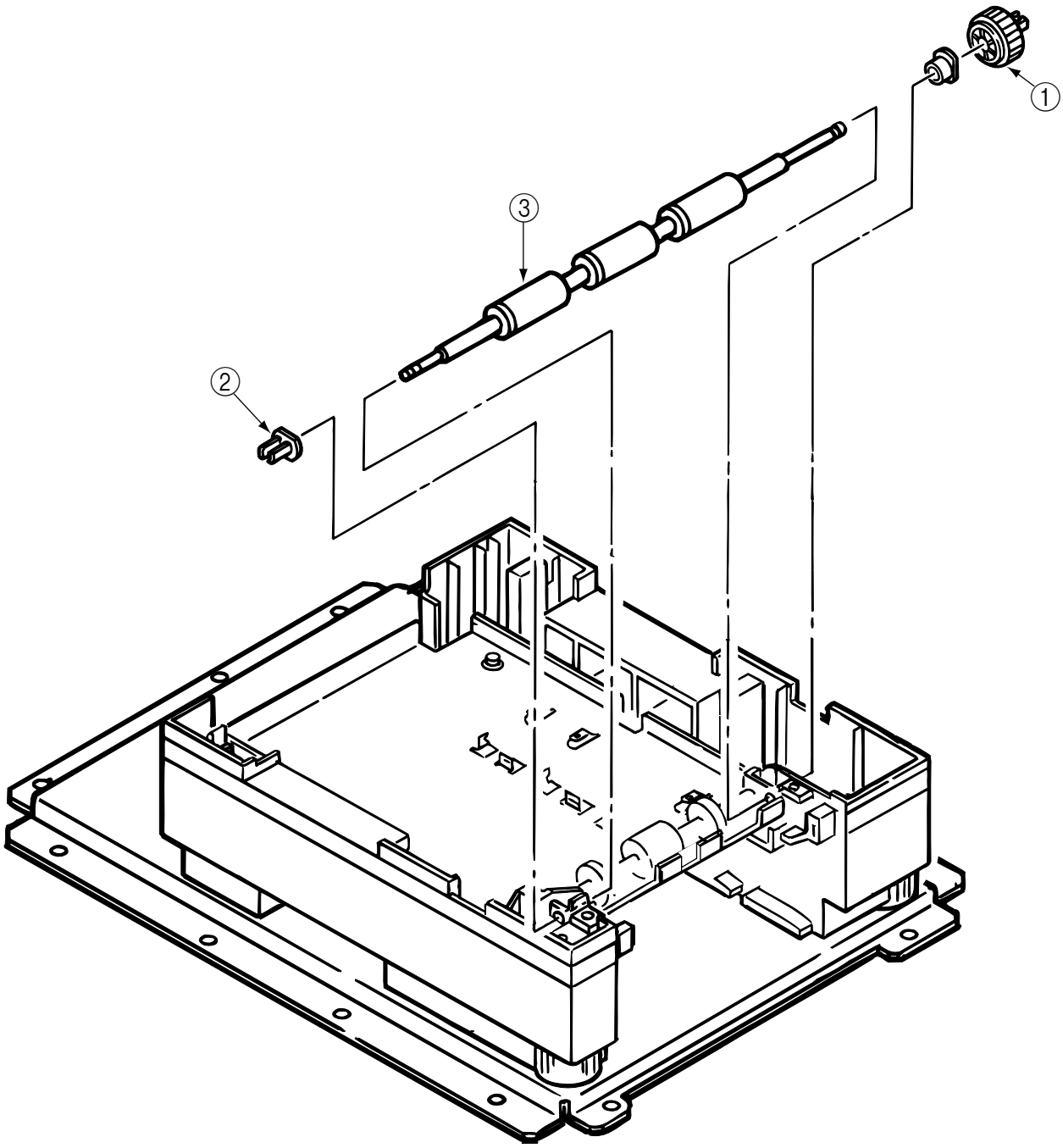
3.3.3 Hopping motor

(1) Remove the Cover Upper (see 3.3.1 step1).
(2) Remove the roller holder assy (see 3.3.1 step2).
(3) Remove two connectors ① and two screws ②, then remove the hopping motor assy ③. Three gears ④ and the connecting lever ⑤, as well as the wave washer ⑥ all come off at the same time, so be careful not to lose them.
(4) Remove two screws ⑦ and remove the hopping motor ⑧.



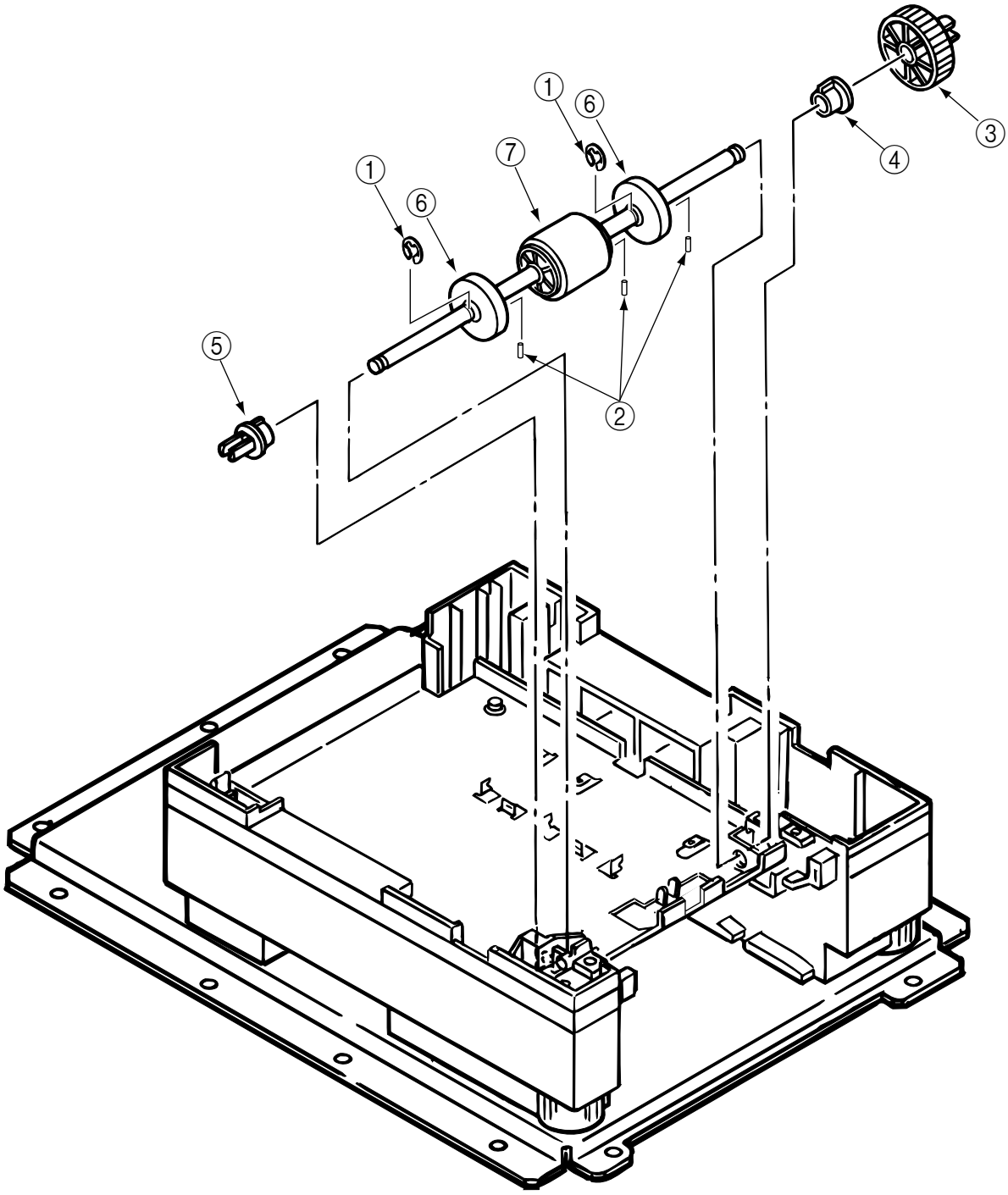
3.3.4 Feed roller

(1) Remove the Cover Upper (see 3.3.1 step1).
(2) Remove the roller holder assy (see 3.3.1 step2).
(3) Remove the AOLT-PCB (see 3.3.2).
(4) Remove the hopping motor assy (see 3.3.3).
(5) Remove the latch on the feed roller gear ① and remove the feed roller gear ①.
(6) Remove the latch on the feed roller bearing ② and remove the feed roller bearing ②.
(7) Shift the feed roller ③ to the right side and lift it out, holding it on the left side.



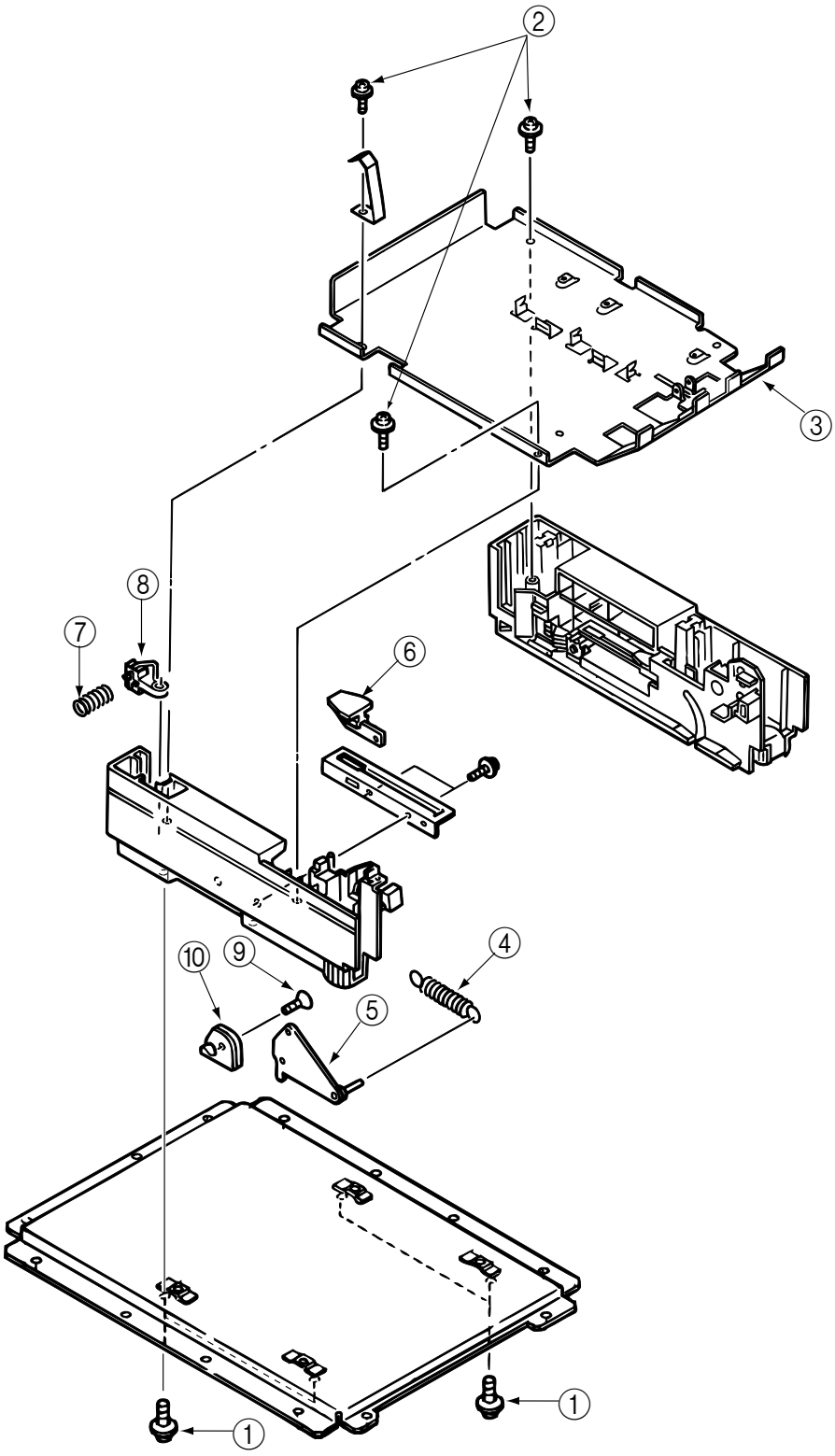
3.3.5 Hopping roller

(1) Remove the feed roller (see 3.3.4).
(2) Remove two-E rings ① and three knock pins ②.
(Be careful no to lose knock pins ②.)
(3) Remove the latch on the hopping roller gear ③ and remove the hopping roller gear ③. The bearing F ④ comes off at the same time, so be careful not to lose it.
(4) Remove the latch on bearing L ⑤ and remove the bearing L ⑤.
(5) Remove the hopping roller (sub) ⑥ and remove the hopping roller rubber ⑦ from it.



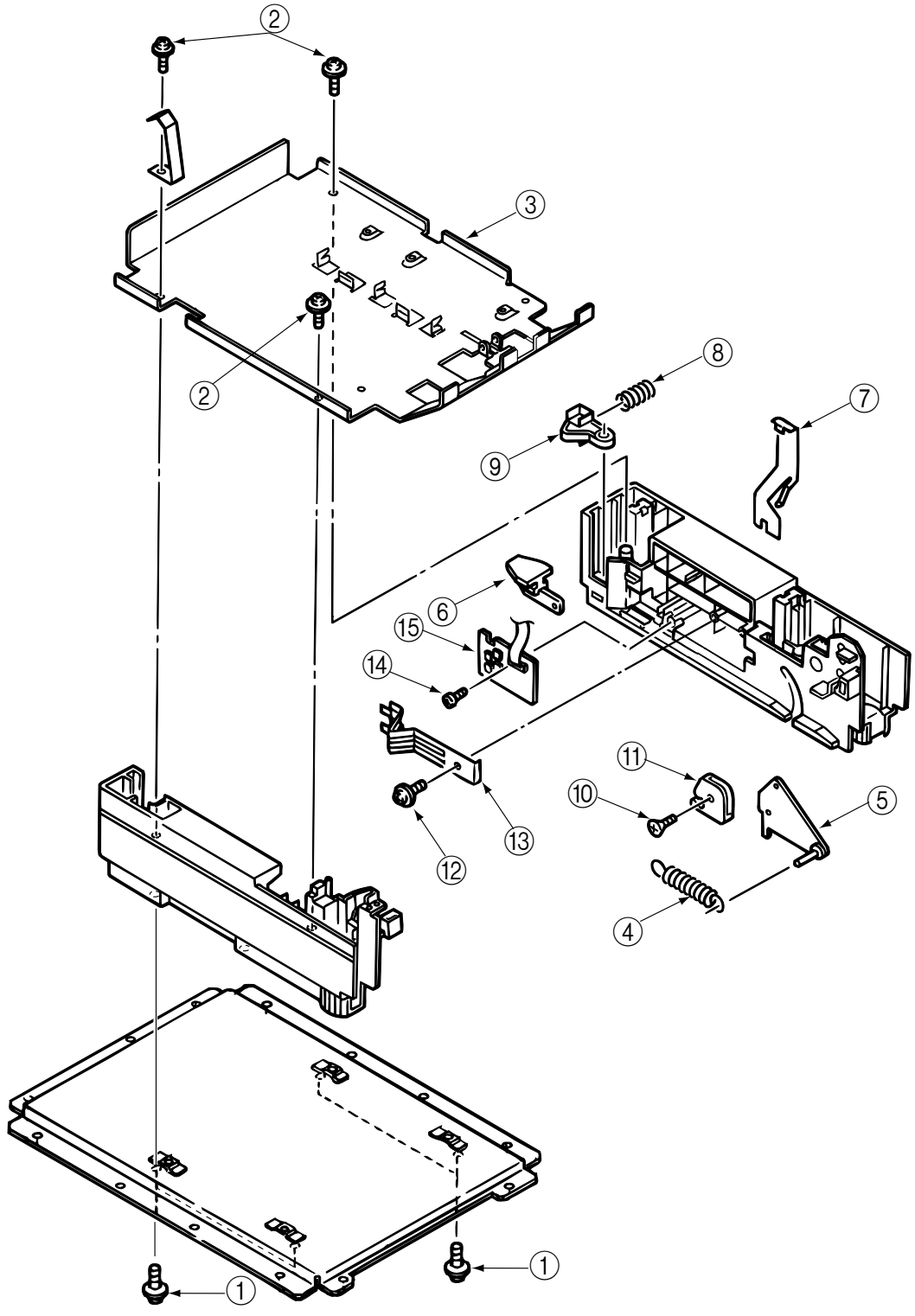
3.3.6 Side frame (L) assy

(1) Remove the hopping roller (see 3.3.5).
(2) Remove the four screws ① and remove the Cover Lower.
(3) Remove three screws ② and remove the upper plate ③.
(4) Remove the cassette lock spring ④, link ⑤, pull block ⑥ (note the directions of the hooks of the cassette lock spring ④).
(5) Remove the spring ⑦ and cassette stopper ⑧.
(6) Remove the screw ⑨ and remove the link support ⑩.



3.3.7 Side frame (R) assy

(1) Remove the hopping roller (see 3.3.5).
(2) Remove four screws ① and remove the Cover Lower.
(3) Remove three screws ② and remove the upper plate ③.
(4) Remove the cassette lock spring ④, link ⑤, pull block ⑥ and earth plate ⑦ (note the directions of the hooks of the cassette lock spring ④).
(5) Remove the spring ⑧ and remove the cassette stopper ⑨.
(6) Remove the screw ⑩ and remove the link support ⑪.
(7) Remove the screw ⑫ and remove the detector spring ⑬.
(8) Remove the screw ⑭ and remove the AOLD-PCB ⑮.



4. TROUBLESHOOTING

4.1 Precautions Prior to the Troubleshooting

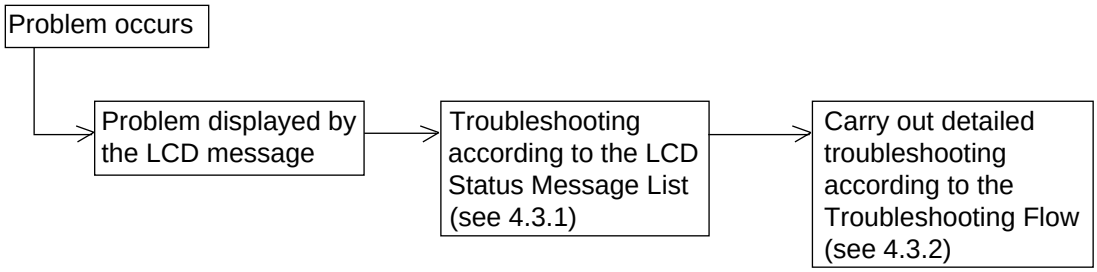
(1) Go through the basic checking items provided in the Operator Guide.
(2) Obtain detailed information concerning the problem from the user.
(3) Go through the checking in the conditions similar to that in which the problem occurred.

4.2 Preparations for the Troubleshooting

(1) Display on the Operator panel
The status of the problem is displayed on the LCD (Liquid Crystal Display) on the Operator panel. Go through the appropriate troubleshooting procedures according to the messages displayed on the LCD.

4.3 Troubleshooting Method

When a problem occurs, go through the troubleshooting according to the following procedure.


Problem occurs
Problem displayed by the LCD message
Troubleshooting according to the LCD Status Message List (see 4.3.1)
Carry out detailed troubleshooting according to the Troubleshooting Flow (see 4.3.2)

4.3.1 LCD Status Message List

The listing of the statuses and problems displayed in the form of messages on the LCD is provided in Table 4-1.

Table 4-1

Classification	LCD Status Message	Description	Recovery method
Jam error	PAPER INPUT JAM CHECK TRAY 2 PAPER FEED JAM CHECK TRAY 2	Notifies of occurrence of jam while the paper is being fed from the High Capacity Second Paper Feeder	• Check the paper in the High Capacity Second Paper Feeder. Carry out the recovery printing by opening the cover, removing jammed paper and closing the cover, and then turning the error display off. • When the problem occurs frequently, to through the Troubleshooting.
Paper size error	ERROR PAPER SIZE CHECK TRAY 2	Notifies of incorrect size paper feeding from the High Capacity Second Paper Feeder.	• Check the paper in the High Capacity Second Paper Feeder. Also check to see if there was a feeding of multiple sheets. Carry out the recovery printing by opening the cover, removing paper and closing the cover, and then turning the error display off.
Tray paper out	PAPER OUT mmmmmmmm TRAY 2 mmmmmmmm: Paper size in the tray being selected	Notifies of no paper or paper cassette state of the High Capacity Second Paper Feeder.	• Load the paper or paper cassette in the High Capacity Second Paper Feeder.

4.3.2 Troubleshooting Flow

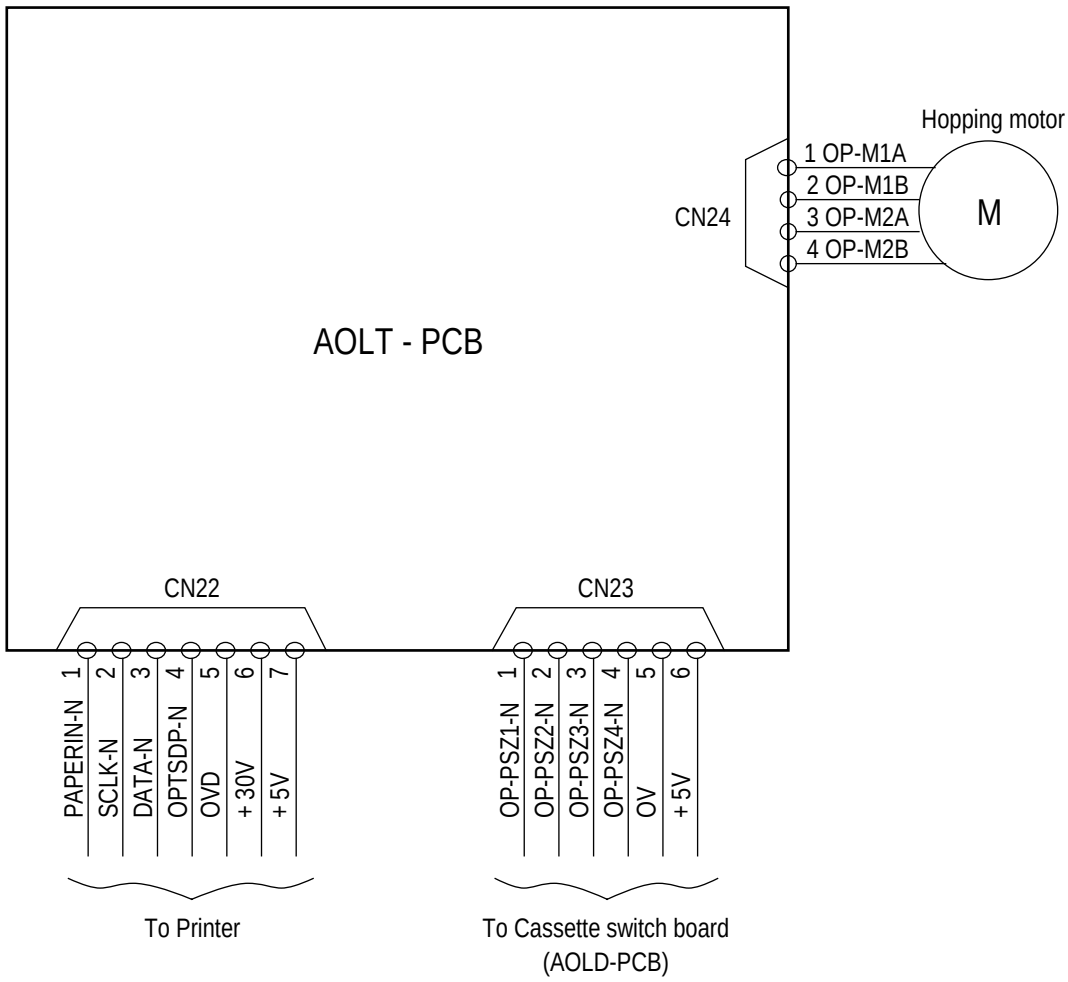
• (JAM error)

Paper Input Jam

- Does paper jam occur at the inlet when the power is turned on?
  - YES Is the paper located above the sensor plate (Inlet)?
    - YES Remove the paper.
  - NO Is the sensor plate (Inlet) operating normally?
    - NO Replace the sensor plate (Inlet).
  - YES Replace the power/sensor board or inlet sensor.
- NO When the paper is fed in, does the paper input jam occur?
  - YES Is the paper being fed to above sensor plate (Inlet)?
    - YES Is the sensor plate (Inlet) operating normally?
      - NO Replace the sensor plate. (Inlet)
    - YES Clean the inlet sensor on the power/sensor board or replace the power/sensor board or inlet sensor.
  - NO Replace the hopping roller shaft assy or paper cassette.
- NO Is the hopping roller shaft rotating?
  - YES Set the paper properly.
- NO Is the stepping motor turning?
  - YES Replace the one-way clutch gear on the hopping roller shaft assembly.
- NO Is the connector cable being connected properly?
  - NO Connect the connector cable properly.
- YES Check the coil resistance (approx. 4.3Ω) of the stepping motor. Is it normal?
  - NO Replace the stepping motor.
- YES Replace the AOLT-PCB.

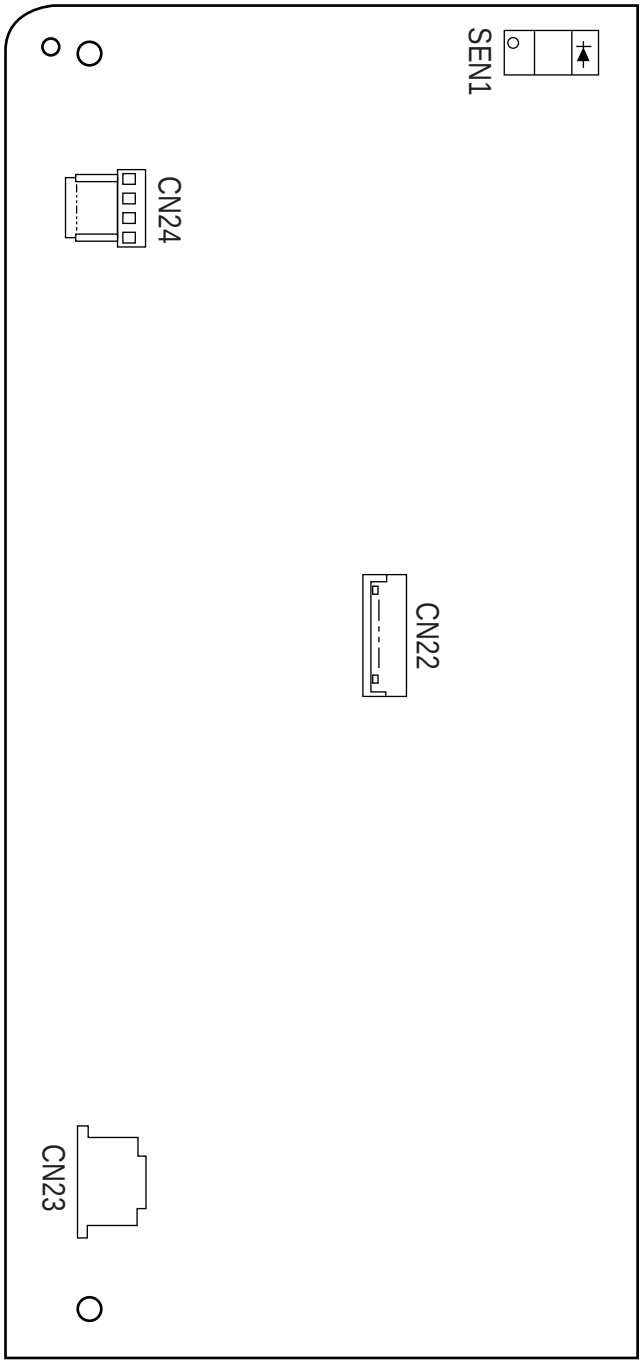
5. CONNECTION DIAGRAM

5.1 Interconnection Diagram



5.2 PCB Layout

AOLT-PCB



6. PARTS LIST

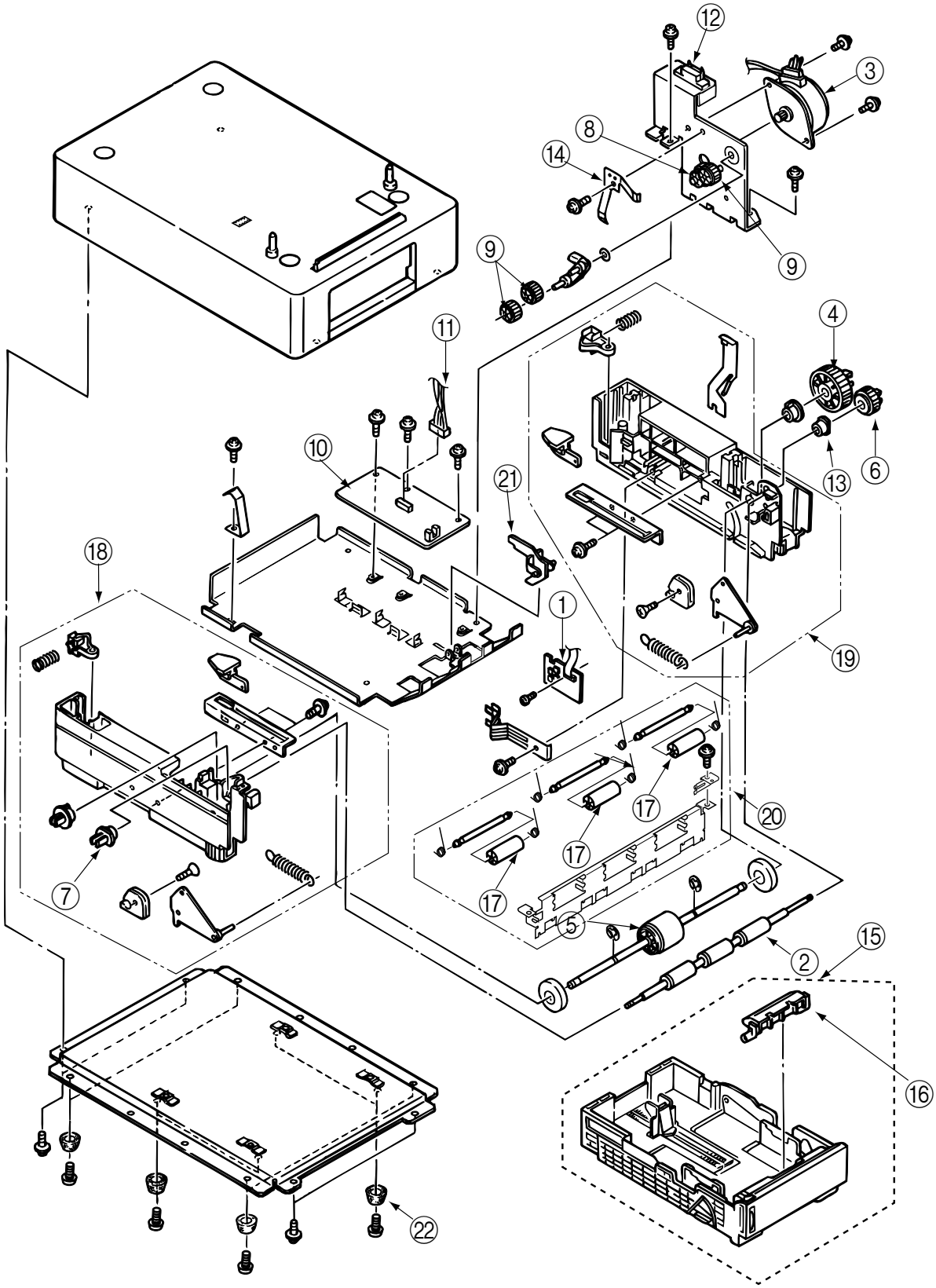


Table 6-1 High Capacity Second Paper Feeder

No.	Description	Part No.	Q'ty	Q'ty			Remarks
				500	1000	2000	
1	AOLD-PCB	4YA4046-1646G011	1	3	6	12	
2	Feed roller	41174001	1	3	6	12	
3	Hopping motor	4PB4076-5718P001	1	3	6	12	
4	Hopping gear	4PB4043-4486P001	1	3	6	12	
5	Hopping roller assy	4PA4076-5755G001	1	3	6	12	
6	Feed roller gear	4PB4043-4488P001	1	3	6	12	
7	Feed roller bearing	4PP4043-4489P001	1	3	6	12	
8	Feed idle gear	4PP4076-5712P001	1	3	6	12	
9	Planet gear	4PP4043-4491P001	3	9	18	36	
10	AOLT-PCB	4YA4046-1645G011	1	3	6	12	
11	Connector cord	4YS4011-4448P003	1	3	6	12	
12	Square-shaped connector	220A1866P0141	1	3	6	12	
13	Bush	4PP4076-3949P001	1	3	6	12	
14	Shaft earth plate	4PP4076-5719P001	1	3	6	12	
15	Paper cassette assy	40744401	1	3	6	12	
16	Separator frame assy	40607101	1	3	6	12	
17	Idle roller	4PP4043-4477P001	3	9	18	36	
18	Frame assy-side L	40411901	1	3	6	12	
19	Frame assy-side R	40412001	1	3	6	12	
20	Holder assy	40727201	1	3	6	12	
21	Lever paper end	4PP4076-5154P001	1	3	6	12	
22	Rubber-Foot	40671001	8	24	48	96	